RELATIONSHIP BETWEEN ENTREPRENEURSHIP EDUCATION, ENTREPRENEURIAL OPPORTUNITY RECOGNITION AND ENTREPRENEURIAL CAREER OPTION AMONG PALESTINIAN UNDERGRADUATE STUDENTS

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By

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ABSTRACT

An important aspect needed for promoting entrepreneurship is the encouragement of individuals by endowing them with the required skills and knowledge for recognizing the opportunities and turning these opportunities into successful ventures. Entrepreneurial opportunities recognition is considered as a specific human capital that can be learned through entrepreneurship education which has an effect on entrepreneurial career option. Based on the insights of the dynamic view of the human capital theory this study investigated the mediating role of entrepreneurial opportunity recognition (EOR) on the relationship between entrepreneurship education (EE) in terms of (Know-what, Know-why, Know-who and Know-how) and entrepreneurial career options (ECO) among Palestinian undergraduate students from business program. Furthermore, there are 4199 students in 13 Palestinian universities, and this comprised the study population. Data of the study was collected from final year students across six universities in Palestine during the 2016/2017 academic session using structured survey questionnaires. The study used the structural equation modelling Smart-PLS (3.0) to test the data obtained from a sample of 291 respondents, and to analyze the hypotheses. The findings revealed a significant positive association between EE, Know-why, Know-who, Know-how and the students' entrepreneurial career options. However, the study found no significant association between Know-what and the students' entrepreneurial career options. In addition, the study established that EOR significantly mediate the association between EE and the students' entrepreneurial career options. On the contrary, the study revealed that entrepreneurial opportunity recognition does not have a significant mediating effect on the association between know-what and ECO. The findings of the study provide important insights to academic institutions, educators and policy-makers to further comprehend the influences of EE, Know-why, Know-who, Know-how and EOR on students' entrepreneurial career options. The study recommended, that policy-makers should create an entrepreneurship education program that encourages students' entrepreneurial career options. Finally, limitations of the study and suggestions for future research were discussed.

Keywords: Entrepreneurial career option, entrepreneurship education, entrepreneurial opportunity recognition.

ABSTRAK

Aspek penting yang diperlukan untuk mempromosikan keusahawanan ialah galakan secara individu dengan membekalkan kemahiran dan pengetahuan yang diperlukan untuk mengenal pasti peluang dan mengubah peluang ini menjadi usaha yang berjaya. Pengiktirafan peluang keusahawanan dianggap sebagai modal insan khusus yang dapat dipelajari melalui pendidikan keusahawanan yang mempengaruhi pilihan kerjaya keusahawanan. Berdasarkan tanggapan pandangan dinamik dalam teori modal insan, kajian ini menyelidik peranan perantaraan pengiktirafan peluang keusahawanan (EOR) terhadap hubungan antara pendidikan keusahawanan (EE) dari segi (*Know-what, Know-why, Know-who and Know-how*) dan pilihan kerjaya keusahawanan (ECO) dalam kalangan pelajar sarjana muda daripada pelbagai program. Seterusnya, terdapat 4199 orang pelajar dalam 13 buah universiti di Palestine, dan mereka merupakan populasi kajian ini. Data kajian dikumpulkan daripada pelajar tahun akhir enam buah universiti di Palestin bagi sesi akademik 2016/2017 menggunakan soal selidik tinjauan berstruktur. Kajian ini menggunakan pemodelan persamaan berstruktur Smart-PLS (3.0) untuk menguji data yang diperoleh daripada sampel 291 responden, dan juga untuk menganalisis hipotesis. Dapatan kajian menunjukkan hubungan positif antara EE, *Know-why, Know-who, Know-how* dan pilihan kerjaya keusahawanan pelajar. Walau bagaimanapun, kajian itu tidak menemui hubungan yang signifikan antara *Know-what* dan pilihan kerjaya keusahawanan pelajar. Di samping itu, kajian ini menegaskan bahawa EOR mengantarakan secara signifikan hubungan antara EE dengan pilihan kerjaya keusahawanan pelajar. Sebaliknya, kajian menunjukkan bahawa pengiktirafan peluang keusahawanan tidak mempunyai kesan pengantaraan yang signifikan ke atas hubungan antara pengetahuan dan ECO. Dapatan kajian memberikan pandangan penting kepada institusi akademik, pendidik dan pembuat dasar untuk lebih memahami pengaruh EE, *Know-why, Know-who, Know-how* dan EOR terhadap pilihan kerjaya keusahawanan pelajar. Kajian ini mencadangkan bahawa pembuat dasar perlu mewujudkan program pendidikan keusahawanan yang menggalakkan pilihan kerjaya keusahawanan pelajar. Akhir sekali, batasan kajian dan cadangan untuk penyelidikan pada masa hadapan turut dibincangkan.

Kata kunci: Pilihan kerjaya keusahawanan, pendidikan keusahawanan, pengiktirafan peluang keusahawanan.

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LIST OF ABBREVIATIONS

ECO	Entrepreneurial Career Option
EE	Entrepreneurship Education
KWHAT	Entrepreneurial Know-What
KWHY	Entrepreneurial Know-Why
KWHO	Entrepreneurial Know-Who
KHOW	Entrepreneurial Know-How
EOR	Entrepreneurial Opportunity Recognition
GEM	Global Entrepreneurship Monitor
MAS	Palestine Economic Policy Research Institute
ETF	European Training Foundation
PNA	Palestinian National Authority
PIF	Palestine Investment Fund
MENA	Middle East and North Africa Region
OPT	Occupied Palestinian Territories
GoF	Goodness of Fit
HCT	Human Capital Theory
HEIs	Higher Educational Institutions
ILO	International Labour Organisation
M	Mean
PCBS	Palestinian Central Bureau of Statistics
PLS	Partial Least square
R^2	R-squared – Coefficient of Determination
F^2	Assessment of Effects Sizes
Q^2	Assessment of Predictive Relevance
AVE	Average Variance Extracted
SAS	Statistical Analysis System
SCCT	Social Cognitive Career Theory
SCT	Social Cognitive Theory
SD	Standard Deviation
SEM	Structural Equation Modelling
SMEs	Small & Medium Enterprises
SPSS	Statistical Package for the Social Sciences
TEA	Total early-stage Entrepreneurial Activity
TPB	Theory of Planned Behaviour
VAF	Variance Accounted For
VIF	Variance Inflated Factor

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

An increasing trend has been notable among international organizations and government since the 1970s in their tendency towards stimulating economic development through the promotion of entrepreneurship while creating entrepreneurial culture at the same time. More recently, the importance of entrepreneurship has grown leaps and bounds in terms of achieving economic growth, maximum employment, job creation, and positive social development (Acs & Varga, 2005; Herman & Stefanescu, 2017; Kelley, Singer, & Herrington, 2012; Ndedi, 2012). Moreover, entrepreneurship has been evidenced in several studies to boost essential factors including productivity, innovation, job creation as well as economic and social development (Ács, Szerb, & Autio, 2016; Audretsch, 2012; Parker, 2009; Shane & Venkataraman, 2000; Singer, Amoros, & Arreola, 2015; Wennekers, Van Wennekers, Thurik, & Reynolds, 2005).

In the field of entrepreneurship, entrepreneurship education is a concept that has become crucial to both economic and social phenomenon and as a research field. It has also been acknowledged in the fields of academic and teaching (Fayolle & Gailly, 2008), in other words, the essential role of entrepreneurship education at university level is enhancing and increasing the students awareness and to highlight the entrepreneurial path as viable career option (Fayolle & Gailly, 2015), owing to the increasing number of universities established on a global scale that offer entrepreneurship faculties and courses. Additionally, programs dedicated to entrepreneurship education have been rapidly increasing in the past two decades

(Bank, 2013) and their advantages have garnered the attention of several countries to adopt them. This is exemplified by the long-term support of the European Commission member states of entrepreneurship education, owing to its assistance to developing a business mind-set and providing the required knowledge and skills for the promotion of an entrepreneurial culture (Commission, March 2012).

In this background, universities have a major role as harnessing institutes of students, graduates and researchers' talents. In this regard, a university can be described as an innovation system within the society and entrepreneurial education integrated within the system can be referred to as a task that generates entrepreneurially-centered competent individuals along with social mechanisms that form the basis and the driver of business inception and development (Petridou, Sarri, & Kyrgidou, 2009).

Added to the above, universities have a major function as entrepreneurial centers that link researchers, students, entrepreneurs, businesses and relevant stakeholders. However, entrepreneurship access and exposure in educational systems at the entire levels is pertinent as their objective is to attract audiences internal and external to the universities through outreach programs (Volkmann et al., 2009).

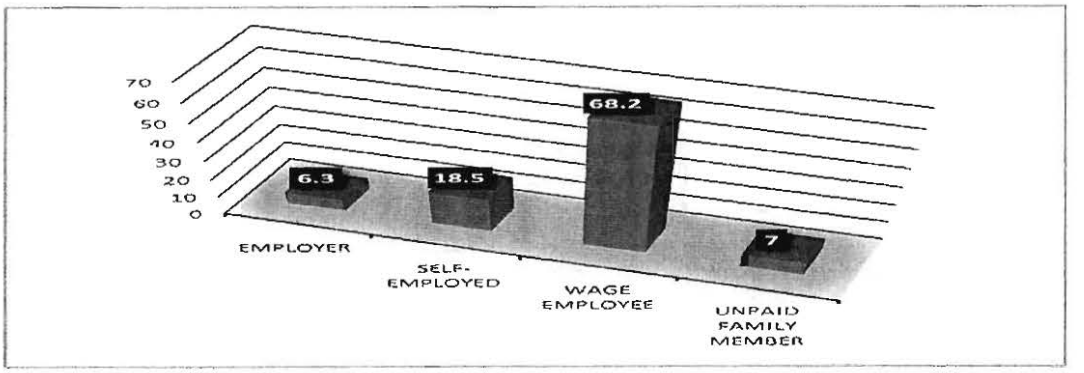
In relation to this, prior studies conducted by the Palestine Economic Policy Research Institute suggested the creation of entrepreneurial skills in drawing up an extensive curriculum review of the Palestinian educational system to constitute the knowledge and skills that are required to develop entrepreneurs. It increasingly inculcates entrepreneurial spirit, critical thinking and risk management skills in students' minds and direct government support to universities to stress on programs aligned with market needs, with the inclusion of developing entrepreneurial skills in terms of the economy and society (MAS, 2014). This calls for young entrepreneurs to be nurtured

from graduates and to facilitate self-employment as an alternative career option (GEM, 2012).

In the Palestinian context, more enterprises and entrepreneurs are required as the country is characterized by high unemployment, and high poverty levels in a stagnant economy. Nevertheless, the growth and development of the economy needs high number of start-ups that have a tendency to provide optimum jobs (Elfarra, 2015). On the basis of the report provided by the Palestinian Central Bureau of Statistics (PCBS) (2016), the total population of Palestine is approximately 4.82 million, from which youth constitutes 30%, adolescents (15-19 years) constitutes 37%, and young adults (20-29 years) constitutes 63%. The economy is rife with high youth rates and unemployed graduates as key challenges in the nation, indicating that the most educated, energetic and lively proportion of the population also constitute the most unemployed (MAS, 2014; PCBS, 2016).

Along a similar line, the unemployment rate among labour force participants in Palestine in the second quarter of 2016, was 26.6% (41.2% in Gaza Strip and 18.0% in the West Bank), and the rate of employee participants aged 15 exceeded 45.8% of the second quarter in 2016 (with 45.5% in the West Bank and 46.4% in Gaza Strip). Meanwhile, in the same period, the self-employment rate was 18.6% (13.7% in Gaza Strip and 20.6% in the West Bank) (PCBS, 2016).

Figure 1.1
Labour Force Survey



Source: Palestinian Central Bureau of Statistics, 2015. Labour Force Survey: (April –June 2015) Round, (Q2/2015). Press Report on the Labour Force Survey Results. Ramallah - Palestine.

This issue unemployment has adversely influenced both social and economic environment of Palestinian youth and called for the revamp of the Palestinian perspective to determine the generation of employment sources. The dire need to create jobs should be viewed in terms of potential entrepreneurial and pro-businesses attribute of the professionals in Palestine, where entrepreneurship is viewed by most as a positive career option (GEM, 2012). This has boosted the need to rethink the concept in the context of Palestine in the hopes of determining the employment generation source. A higher level of entrepreneurship that could improve the potential to adopt economic changes is needed and this is possible through new firms' creation (Jose-Luis, Hervas-Oliver Jaén, Inmaculada Liñán, & Francisco, 2013).

Furthermore, the report published by the European Training Foundation (ETF), following the adoption of reins by the Palestinian National Authority (PNA), painted a picture of poor regulation, high segmentation and a distorted labour market (Foundation, 2014). Such adverse conditions have led to the establishment of esoteric market rules that have made it even more impossible to drive labour market towards adopting innovation and more lucrative jobs. In other words, the Palestinian labour

market still remains underdeveloped and requires significant changes (Foundation, 2014). As a result, the percentage of self-employed was 18.5% of the second quarter in 2015 and majority of labour force was wage-employed which was 68.7% (see figure 1.1).

The current scenario is such that major economic problems in recent years have affected entrepreneurship in a way that it may continue to remain stagnant. This shows the discontinuation of high business rates in comparison to neighbouring countries, relatively low rates of activity and development of only the required entrepreneurial activities. In addition to this, the gap in the rate of gender entrepreneurial activity is considerably high in Palestine compared to its neighbouring counterparts in the region (GEM, 2012).

In recent times, the World Bank published the 12th annual Doing Business report for 2016, within which Palestine ranks 170 out of 189 economies in terms of ease of start-ups compared to other countries (Bank, 2016). This shows that the investment climate in the country is poor and unattractive for investors. This is supported by the International Bank report (Investment Climate Assessment, ICA) in 2014 that referred to the private investment situation in the Palestinian territories as insufficient to derive normal economic growth rates.

Such low entrepreneurship level in the country led to low Total Early Stage Entrepreneurial activity (TEA) (9.8%). This figure is relatively low for an economy that is factor-driven, where the TEA is encouraged by fundamental needs as opposed to reasons of economic opportunities. Along a similar line of bleak information, the start-up businesses rate is low compared to the rest of the GEM countries.

The above reasons highlight the importance of the study owing to the significant role of entrepreneurship career development and activities in job opportunities creation, and in improving the economy of the country through maximized employment levels, particularly in the areas that had suffered from high unemployment rates (Altinay, Madanoglu, Daniele, & Lashley, 2012; Malchow-Møller, Schjerning, & Sørensen, 2011). Moreover, more recently, increasing attention has been placed on entrepreneurial career development as a top economic factor to create job opportunities, growth development, mitigation of poverty and social development as evidenced by prior studies (Ethugala, 2011; Kelley et al., 2012).

In the context of education, Rae, Penaluna and Dhaliwal (2011) underlined the universities need to create graduates that possess an entrepreneurial mind-set, skills and experience through their study programs (Rae, Penaluna, & Dhaliwal, 2011). Additionally, scholars advocate that the selection of entrepreneurial career by individuals is influenced by many push and pull factors that form and shape their choice of career (Matlay, 2008). The role of entrepreneurship education lies in guiding the students in start-up businesses as one of the alternatives career choices, and creating positive attitudes towards it (Matlay & Mitra, 2002) cited by (Fayolle & Gailly, 2008). In this regard, Matlay (2005) revealed that entrepreneurship education offered in business institutions should generate more graduates who are inclined towards entrepreneurship (Matlay, 2005).

This was also highlighted by Linan, Rodriguez and Rueda (2011) who recommended that entrepreneurship education should be considered as a major technique to be adopted by those who are inclined to be entrepreneurs (p.210). It is also considered as

a policy tool that ensures the awareness of entrepreneurial career as an alternative option by the graduates (Liñán, Rodríguez-Cohard, & Rueda-Cantuche, 2011).

The above ideas advocate the promotion of entrepreneurship education in Palestinian tertiary level institutions. The success of such initiatives would promote entrepreneurship as a potential career alternative choice and could lead to the development of the economy and creation of job positions in the context of Palestine, improving the youth's ability to use their skills and knowledge to identify opportunities of entrepreneurship (Valliere, 2011). This places significant responsibility on universities to facilitate an academic environment that promotes the goal of educating students and graduates (promotes job creation) as opposed to just generating graduates who are seek jobs (Schulte, 2004).

In this background, El-farra (2015) reported several initiatives proposed by various parties in Palestine Territories for entrepreneurship development and some of these initiatives are provided as follows;

- Majority of local universities in Palestine launched entrepreneurship courses in order to promote the skills and knowledge of students in the entrepreneurial field.

- Programs are introduced to promote the culture of entrepreneurship in the country, where potential entrepreneurs join such programs to form start-ups form their ideas by the end of the program that is often provided on average from 6 months to a year and a half. Such programs offer incubated establishments with Business Development and Incubation services (Skaik, 2015).

-There are notable entrepreneurial activities and initiatives introduced by the Palestine Investment Fund (PIF), microfinance and centres in at various universities in the

country including the Centers at Al-Quds University and Berzeit. Moreover, the Palestinian Ministry of National Economy launched a program to fund small businesses and furnish them with technical as well as managerial support (Rafati, 2015: Interview).

-Mercy Corps NGO introduced a new initiative known as the Business Accelerator program whose sole aim is to assist graduate entrepreneurs from business incubators to develop by providing them with investments or by arranging potential investments either (local or international).

-The SHAREK Youth Forum introduced programs and projects including the Center for Youth Economic Empowerment's A Step Forward that provides career counselling and exposes young women to experience along with counselling and business incubation.

It is important to promote the above entrepreneurial initiatives in Palestine owing to the rate of high unemployment among the Palestinian youth. These initiatives are expected to be invaluable in addressing the long-term challenges of unemployment.

1.2 Problem Statement

On the basis of the report provided by the Palestinian Central Bureau of Statistics (PCBS) (2016), the total population of Palestine is approximately 4.82 million, from which youth constituents 30% of indicators (15-19 years) constituents 37%, and young adults (20-29 years) constitutes 63%. The economy is rife with high youth rates and unemployed priorities as key challenges in the nation, indicating that the most educated, energetic and live proportion of the population also forms the most unemployed (MAS, 2014; PCBS, 2016).

Along a similar line, the unemployment rate among labour force participants in Palestine in the second quarter of 2016, was 26.6% (41.2% in Gaza Strip and 18.0% in the West Bank), and the rate of employee participants aged 15 exceeded 45.8% of the second quarter in 2016 (with 45.5% in the West Bank and 46.4% in Gaza Strip) (PCBS, 2016), Meanwhile, in the same period, the self-employment rate was 18.6% (13.7% in Gaza Strip and 20.6% in the West Bank) (PCBS, 2015).

Furthermore, Labour Force Survey (2016) stated that graduates unemployment rate in Palestine was 31%. As a result, this issue unemployment has adversely influenced both social and economic environment of Palestinian youth and called for the revamping of the Palestinian perspective to determine the generation of employment sources. The dire need to create jobs should be viewed in terms of potential entrepreneurial and pro-businesses attribute of the professionals in Palestine, where entrepreneurship is viewed by most as a positive career option (GEM, 2012).

In a situation where unemployment is amongst the highest in the world, education should be developing students' entrepreneurial capabilities. Thus, the students with highest level of education suffers from extreme unemployment, their active participation as entrepreneurs would further economic development in general and reduce unemployment rates by employing others as workers and improve family living standards in particular. therefore, to overcome unemployment, entrepreneurship education is introduced in the Palestinian universities (MAS, 2014). Therefore, analysing the elements that promote students for becoming an entrepreneur are needed (Zhang et al., 2014).

Along the same line of study, MAS 2012 reported that activities catering to new entrepreneurs in the Occupied Palestinian Territory were the least among the seven

countries located in the Middle East and North Africa (MENA) region. This is particularly crucial because in a country known for high unemployment. Therefore, the role of education in entrepreneurship needs to be examined (MAS, 2012). Furthermore, study of Thurik et al., (2008) stated that entrepreneurship can be a career option, especially in situations of high unemployment rate. While unemployment raise self-employment as an entrepreneurial career option, which in turn, reduces unemployment (Thurik et al., 2008).

Furthermore, entrepreneurship scholars have identified several determinants of individual entrepreneurial career. In various studies, entrepreneurial education has been recognized as a crucial determinant of entrepreneurial career e.g. Malty et al., (2015), Molaei, Zali, Mobaraki and Farsi (2014); Hanapi and Nordin (2014); Abdulai (2015); Othman and Othman, (2015). Along the same line of argument, entrepreneurship education initiatives at the level of universities are deemed to be crucial to increase potential entrepreneurs supply by making students aware and interests in selecting entrepreneurship as their career (Commission, 2006), especially within universities that are extensively recognized to contribute to social and economic development (Kuratko, 2005). Similarly, it began clearly that education, particularly entrepreneurship education (EE), by increasing and promoting entrepreneurial activity, generates positive effects on job creation, improvements in people's standards of living, and economic development (Ács, Szerb, and Autio 2014; EU 2015; Singer, Amoros, and Arreola 2015). At the same time, a major role in supporting and developing future entrepreneurs (EU 2015) and facilitating the decision to start a business and entrepreneurial choice (Block, Hoogerheide, and Thurik 2013). Moreover, the decision to adopt an entrepreneurial career can be deemed to be a choice of particular career among other alternative options (Douglas & Shepherd, 2002; L.

Pihie & Z. Akmaliah, 2009). In the university level, as stated by European Commission (2012), "entrepreneurship education makes a difference". Thus, those students who participated in an entrepreneurial program gain more entrepreneurial attitudes and are able to get a job sooner after graduation (European Commission, 2012). In the same line, according to Pittaway and Cope (2007), entrepreneurship education and training help in employment search and they contribute to the students' employment potential.

Several studies have been conducted in relation to EE and entrepreneurial career. Among the studies that reported positive and significant relationship among the two constructs includes Jones et al. (2008) whom found that a positive association was established between EE and student's entrepreneurial career intention. Other studies reported positive and significant relationship between EE and entrepreneurial career includes Liñán, Urbano and Guerrero (2010); Ellen (2010); Naktiyok, Karabey and Gulluce (2010); Giacomin, Janssen, Pruett, Shinnar, Llopis and Toney (2011); Iakovleva, Kolvereid and Stephan (2011); Hattab (2014); Marina, Westhead, Matlay and Vladimir (2013); Rae and Woodier-Harris (2013); Molaei, Zali, Mobaraki and Farsi (2014); Hanapi and Nordin (2014); Abdulai (2015); Othman and Othman, (2015).

Furthermore, Entrepreneurship education and training scholars have to stress on the requirement for further research to investigate the effects of both variables on the entrepreneurial careers of students (Pittaway & Cope, 2007; Vanevenhoven & Liguori, 2013). Hence, the present study contributes to examining the effects of entrepreneurship education on the career development of students when it comes to employment and self-employment. Moreover, the exploration of the entrepreneurial

career option process of young entrepreneurs' university years has not yet been completed (Commission, 2012; Pittaway & Cope, 2007). In relation to this, Sondari (2014) recommends that future studies examine the type of entrepreneurship education that can affect entrepreneurial career option (Sondari, 2014).

In the same line, some prior scholars contended that entrepreneurship education affects the choice of career (Sinclair, 2008), that results in increasing the level of entrepreneurial activities in the economy and consequently reduces the rates of unemployment among graduates, and thus, theoretically and practically, there is a need to examine this area of research and to promote entrepreneurship as a career choice among the students rather than just forcing unemployment on them as the case of Palestine (El-farra, 2015; GEM, 2012), especially, the total early stage entrepreneurial activity (TEA) was 9.8%. This issue is compounded by the fact that there is scarce research dedicated to graduate entrepreneurs and in essence, very little information exists regarding what the graduates face in their life decisions when it comes to career choices. Also, the graduates' attitudes towards entrepreneurship as a career-option are also largely ignored in literature (Bignotti, 2013).

In the case of Palestine, while entrepreneurship programs have proposed entrepreneurial initiatives by local universities via incubators, United Nations Relief and Works Agency (UNRWA) and NGOs, they are still in the early stages and the need exists to promote independence entrepreneurship initiatives (Skaik, 2015), This is especially true in universities entrepreneurs and students that do not have sufficient initiatives for start-ups (El-farra, 2015). Thus, at university level entrepreneurship education initiatives are considered crucial for increasing supply of potential entrepreneurs through making students interested and aware in entrepreneurship as a

career option (European Commission, 2006). Moreover, few studies have been conducted to examine the role of entrepreneurial learning on career intentions particularly developing countries perspective, so the relationship is limited and still undergoing empirical testing (Byabashaija, 2011; Zhang et al., 2014).

Several studies reached to the conclusion that both knowledge and skills obtained in entrepreneurship education generate outcomes that are linked to transforming into an entrepreneur (Krueger, Reilly & Carsrud 2000; Puhakka, 2011; Shepherd & DeTienne, 2005; Solesvik, Westhead, Matlay, & Parsyak 2013; Valliere, 2011; Zhang et al., 2014). They supported the notion that entrepreneurship education offers an individual the knowledge and skills to supplement his enterprising behaviour and eventually to recognize opportunities overlooked by others. Moreover, empirical studies indicate that opportunity recognition can be honed among individuals and that entrepreneurship education has a key role in its development enhancement (DeTienne & Chandler, 2004; Fiet, 2002). Also, Wen-Long et al. (2014) found that an entrepreneurial education course that has an effective design and establishment significantly impacts the skills to recognize opportunities (Wen-Long, Liu, & Chiang , 2014). Such opportunity recognition abilities can also assist in career management (Sardeshmukh & Smith- Nelson, 2011).

Moreover, the development of the abilities to recognition opportunities is a major aspect of the entrepreneurship process, and as such, entrepreneurship education is core to its improvement (Liñán, Rodríguez-Cohard, et al., 2011; Lumpkin, Hills, and Shrader, 2004). Literature dedicated to the subject of entrepreneurship education advocate the teaching of opportunity recognition and its central role in programs aimed to prepare potential entrepreneurs (Saks & Gaglio, 2002). This is supported by the

findings revealed by Elfving, Brannback and Carsrud (2009) that indicated intentions towards entrepreneurial career can be carefully examined through a theoretical framework that integrates opportunity identification coupled with other variables (Elfving , Brännback, & Carsrud, 2009). Along a similar finding, opportunity recognition ability could result in a motivating impact on the intention of individuals towards business start-ups and career option as reported by (Van Gelderen et al., 2008). In the same line, the ability and skills of identifying of opportunity among students and graduates in Palestine still at infant, and such a recognition of opportunity gap does exist that requires filing and bridge this gap, in other words, a positive increase in recognition of opportunities leads to increase in the start-up of new ventures (El-farra, 2015). Also, increase entrepreneurial activities in the economy of Palestine (GEM, 2012). Furthermore, despite a growing amount of literature on opportunity identification and its importance in the entrepreneurship process, there is a dearth of research regarding the effects of education on students' ability to identify business opportunities (Karimi et. al. 2016). Along a similar line of preliminary interview which conducted by the researcher at 11 July 2016. The researcher has conducted preliminary interview of 25 graduates, and the outcomes as follows; 3 of them found opportunity in public sector, 9 have opportunity by self-employed, and 13 still looking for the opportunity. We thus have an opportunity gap. Entrepreneurship education needs to fill this opportunity gap by developing the students' ability to recognize and develop opportunities.

In addition, a number of studies were conducted to look at relationship between entrepreneurial opportunity recognition and entrepreneurial career option (Herath, 2014; Gielnik et al., 2015; Geissler & Zanger's 2010; Wang et al., 2013; Ardichvili et al., 2003). Moreover, entrepreneurial opportunity recognition of the individual plays a

crucial role in developing individual career intentions to become an entrepreneur. Furthermore, study of Herath, (2014) demonstrated that there is a significant and positive relationship between opportunity recognition and entrepreneurial career success (Herath, 2014). Moreover, there is great deal of studies on entrepreneurial success and opportunity recognition. However, the phenomenon studied in relation to entrepreneurial career success and opportunity recognition are still inconclusive so they need to be revisited (Herath, 2014).

To clarify the findings, entrepreneurship education is considered to be the reason behind recognition of opportunities and eventually the latter mediates the cause of the former, and the entrepreneurship education-entrepreneurial career relationship may arise via opportunity recognition (Fayolle & Klandt, 2006; Sardeshmukh & Smith-Nelson, 2011). On the basis of the findings, the present study aims to conduct an analysis of the mediating effect of entrepreneurial opportunity recognition on the entrepreneurship education-entrepreneurial career option relationship.

A mediator, according to Baron and Kenny (1986) is a variable that sheds light on the predictor-outcome relationship (Baron & Kenny, 1986). In addition, a mediator process is a chain reaction, beginning with an independent variable that affects a mediator that in turn affects an outcome. The definition above by Baron and Kenny presented for stage sequences, states three conditions for establishing mediation; (1) to have direct significant relationship between IV & DV, (2) where, IV related significant to the mediating variable and (3) there is direct significant relationship between mediator variable and DV. Thus, entrepreneurial opportunity recognition (EOR) was proposed to mediate the relationship between entrepreneurial education (EE) and entrepreneurial career option (ECO). In the other words, entrepreneurial education is

presumed to cause entrepreneurial opportunity recognition and in turn EOR as a mediator cause the entrepreneurial career option. As mentioned above the relationship between EE and ECO may happen through entrepreneurial opportunity recognition this give explanation of "why" and "how" a cause-and-effect happens (Baron & Kenny, 1986). Furthermore, in accordance with Preacher and Hayes (2008) whom argued that establishing relationship between variables is important, but not sufficient condition for the two variables to be casually related. However, they suggest that of great important is explaining how or be what means the causal effect occurs. In the same line, Niammuad et al. (2014) suggest EOR as a mediator. Along a similar line of entrepreneurship literatures, few studies have analysed the relationship between the ability to recognize opportunities -as a mediator- with other variables. Moreover, based on the literature consulted, the researcher didn't across study that examines the relationship among entrepreneurship education and entrepreneurial career option using entrepreneurial opportunity recognition as a mediator. Therefore, in the current study, the researcher extended the ideas discussed in the earlier studies on opportunity recognition as a mediator and will bridges the gap by empirically examining the mediating effect of EOR on the EE-ECO relationship.

1.3 Research Questions

On the basis of the relationship among the present study variables namely entrepreneurship education (EE), entrepreneurial opportunity recognition (EOR) and entrepreneurial career option (ECO) in literature, this study's aims to answer the following research questions;

1. Is there any significant relationship between entrepreneurship education (know-what, know-why, know-who and know-how) and entrepreneurial career option?

2. Is there any significant relationship between entrepreneurship education (know-what, know-why, know-who and know-how) and entrepreneurial opportunity recognition?

3. Is there any significant relationship between entrepreneurial opportunity recognition and entrepreneurial career option?

4. Does entrepreneurial opportunity recognition mediate relationship between entrepreneurship education and entrepreneurial career option?

1.4 Research Objectives

This study primarily aims to investigate the mediating effect of entrepreneurial opportunity recognition on the relationship between entrepreneurship education and entrepreneurial career option among Palestinian students in higher education institutes. The main objectives are listed as follows;

1. To examine the relationship between entrepreneurship education (know-what, know-why, know-who and know-how) and entrepreneurial career option.

2. To examine the relationship between entrepreneurship education (know-what, know-why, know-who and know-how) and entrepreneurial opportunity recognition.

3. To examine the relationship between entrepreneurial opportunity recognition and entrepreneurial career option.

4. To examine the mediating effect of entrepreneurial opportunity recognition on the relationship between entrepreneurship education and entrepreneurial career option.

1.5 Scope of the Study

1.5.1 A Focus on entrepreneurial career option

The present study examines the ECO of students as opposed to their entrepreneurial intention as the primary aim of this study is to determine whether or not entrepreneurial opportunity recognition (EOR) mediates and enhances the relationship between entrepreneurship education and entrepreneurial career option. In other words, this study considers entrepreneurial career as the dependent variable and it is the measure of the impact of the entrepreneurship program. This variable is the most effective indicator to measure the direct impact of the program and to predict future behaviour of students.

In times of low rate of employment when educated individuals are hard-pressed to get jobs, it becomes a great challenge for the country to generate jobs to boost its economy. This holds quite true for the leads developed nations, like Palestine, where governments lack resources to support citizens without jobs. In this background, entrepreneurship and self-employment appears to be the most effective solution and as such, this study attempts to examine the impact of entrepreneurship education on entrepreneurial career option among Palestinian university students.

It is notable around the globe that two major entrepreneurship initiatives drivers exist in Palestine. First, the general promotion of entrepreneurship recognizes the key role of entrepreneurship in the jobs generation, innovation and national competitiveness. Second, graduate entrepreneurship promotion is boosted by the increasing need for mitigating labour market pressure that graduates and universities are faced with, as a result of which, higher education sector has been expanding in the last ten years. Also,

Palestinian universities have adopted various measures to educate, motivate and support students to contemplate on taking up entrepreneurship as a career option. Such measures differ from integrating entrepreneurship education in the curriculum to providing mentoring services and funding for seed corn.

Generally, universities entrepreneurship education can make students aware and inspire them in the hopes of making them willing to consider entrepreneurship as a career option (Lange, Marram, Jawahar, Yong, & Bygrave, 2011; Souitaris, Zerbinati, & Al-Laham, 2007).

1.5.2 A focus on students at universities\HEIs

In order to examine the mediating effect of EOR on the EE-ECO relationship, this study focused on final year undergraduate (8 semesters) students of business studies (management, accounting, finance and economic) from various Palestinian higher education institutions. These students were selected because of their suitability in embarking in professions. Another reason for this choice is that final year undergraduate students is that they have been exposed to at least one entrepreneurship program that an influence their tendency towards an entrepreneurship career, giving them the opportunity to study such career.

It is evident from the analysis results that aside from some exceptions, majority of the students perceive business start-ups as their long-term goal. Students comprising the study sample had already been exposed to multiple entrepreneurship courses during their studies, indicating that they are aware of entrepreneurship education and its value in their career goals and lives. Several entrepreneurship studies have focused on business students e.g. (Kolvereid, 1996b; Krueger, Reilly , & Carsrud 2000), with most

of them selecting their samples from the graduate and undergraduate population sample within the age group 18-24 as this is the most suitable age range to becoming entrepreneurs evidenced in literature e.g. (Fatoki, 2010; Kunday & Çakir, 2014; Tanveer, Shafique, Akbar, & Rizvi, 2013). In this regard, the youth constitutes an interesting study sample when it comes to entrepreneurial career options. From childhood to adolescence, an individual determines his career goals and develop an attitude towards their choice (Bandura, Barbaranelli, Caprara, & Pastorelli, 2001; Godsey & Sebora, 2011; Lent & Brown, 1996; Lynety & Olawale, 2012).

Hence, in the present study, the sample comprises of final year undergraduate students of business studies (management, accounting, finance and economic) from Palestinian universities or higher education institutions.

1.6 Significance of the Study

Prior literature evidenced the positive effect of entrepreneurship on the economy because of the accompanying innovation and competition growth (Birch, 1989; Jack & Anderson, 1998; Zimmerer & Scarborough, 2005). In a global economy rife with competition, entrepreneurship is considered and used as an effective mechanism to promote dynamism in the economy by the launching of innovative products/services, taking advantage of new technologies, generating job positions and developing novel markets (Nandram & Samsom, 2006).

Moreover, entrepreneurship education boosts the entrepreneurial intentions among students and in turn, leads to the production of new firms (Commission, 2006). Added to this, EE may improve the awareness of students concerning self-employment and they may think about taking up entrepreneurship as their long-term career

(Commission, March 2012). In relation to this, there are push and pull factors that influence the entrepreneurial career path of students when studying entrepreneurship (Matlay & Storey, 2003).

Other studies like those conducted by Galloway and Baron (2002) and Henderson and Robertson (1999) also supported the relationship between entrepreneurial education and entrepreneurial activity among students (Galloway & Brown, 2002; Henderson & Robertson, 1999). More specifically, Potter (2008) underlined the EE function and its significance in improving entrepreneurship attitudes of students at the level of tertiary education (Potter, 2008). Hence, initiatives to towards the program at the university level are deemed to be crucial in boosting the pool of entrepreneurs by making more and more students aware of it and be inclined to it as their career goal.

Because entrepreneurship is a part of the solution to the increasing rate of unemployment, it is crucial to determine ways to create a potential pool of entrepreneurs after to or prior to the students' graduation. This could produce a large number of entrepreneurs and this calls for higher education and entrepreneurship education to bring about heightened entrepreneurial activities (Nabi & Liñán, 2011).

Jaafar and Abdul Aziz (2008) noted that research indicates that individuals that attend entrepreneurship programs have greater inclination towards starting their businesses as a career option as opposed to those who attend other courses (Jaafar & Rashid Abdul Aziz, 2008). Such inclination may stem from their experience/knowledge that they have during the course that motivates them towards entrepreneurship (Ismail et al., 2009). Hence, entrepreneurial education has a key role in producing intention towards entrepreneurial career.

The spirit and abilities of entrepreneurs are important to develop entrepreneurial activities as they drive the enthusiasm, progress, innovation and the competitive spirit. Along with the crucial element of entrepreneurship is the increasing stress on entrepreneurship education, particularly in recent times (Katz, 2003). In this regard, Honig (2004) and Robinson and Sexton (1994) found a positive impact of entrepreneurship education and training on entrepreneurial activity (Honig, 2004; Robinson & Sexton, 1994), by supporting the attitudes, behavioural characteristics and desirability of students (Hansemark, 1998; Peterman & Kennedy, 2003) and their skills in entrepreneurship and management (Charney & Libecap, 2000; Charney & Libecap, 2003; Clark, Davis, & Harnish, 1984; Ronstadt, 1987). This shows that entrepreneurship education is crucial in facilitating entrepreneurial activities as well as performance and ultimately, economic development.

More importantly, the entrepreneurial career of individuals possessing high perceived entrepreneurial education reinforce their tendency to take part in activities catering towards entrepreneurship as their employment option (Chun-Mei, Chien-Hua, & HSIAO, 2011; Hofer et al., 2010; Pihie & Akmaliah, 2009; SAMANTHA KUMARA, 2012). Early beginners who have running their own businesses in mind view the activity as a potential long-term career option, wherein which education plays a key role in (Hofer & Potter., 2012). In other studies, a positive linkage was noted between EE and entrepreneurial career choice e.g. (Albert, Fournier, & Marion, 1991; Solomon, Dickson, Solomon, & Weaver, 2008). However, Groenewald et al. (2006) contended that the exposure to an entrepreneurship course may ensure an orientation towards it or a positive expectation of one's abilities and career (Groenewald et al., 2006). The contribution of the study is explained in detail in the next sub-sections.

1.6.1 Practical Contribution

With regards to the practical implications of the present study, it is expected to contribute to university management, entrepreneurship educators and potential entrepreneurship. This holds true as universities management are interested to observe the way entrepreneurship education programs may influence the students' entrepreneurial career. The findings of the present study can also assist in the promotion of entrepreneurship education and entrepreneurship as a potential career option in order to resolve the increasing rate of unemployment in Palestine. Educators of entrepreneurship may also develop a curriculum based on the findings in order to direct such curriculum towards the improvement of the identification of students' opportunities. Furthermore, potential entrepreneurs may utilize the findings of this study to achieve their career via the identification of opportunities that forms the core of entrepreneurial opportunity brought about by the universities provided entrepreneurship education.

Furthermore, the researcher expects the study to provide insights in to the EE stage of various Palestinian stakeholders, and global ones. It is a pioneering study in the context of Palestine that investigates the impact of EE on the students' attitude to ECO. As a consequence, the study findings may assist various players in the market including academicians, policy makers and institutions of higher learning. It could provide a guidance to policy makers on the achievement level of the new EE curriculum and assist tertiary institutions and supervisory entities in the country in their attempts to identify the weaknesses in the EE programs in Palestine. This in turn, could create the promotion of suitable EE initiatives that are effective in preparing students in terms of their ECO.

1.6.2 Theoretical Contribution

As for the study's theoretical contributions, the empirical findings of the study could greatly contribute to the topic regarding the relationship between EE and ECO, with EOR as the mediating variable between the two. The findings could substantiate prior studies dedicated to entrepreneurship and shed more light on the factors promoting entrepreneurial behaviour antecedents. In regards to this, scholars of entrepreneurship education and training have practically stressed on the dire need to examine the effects of EE and training on the ECO of students e.g. (Pittaway & Cope, 2007; Vanevenhoven & Liguori, 2013).

Despite this urging from prior studies, more empirical studies are required to review literature and the issues highlighted within concerning EE and entrepreneurship as a career option in countries all over the globe, particularly in developing countries (Alain Fayolle, Benoit Gailly, & Narjisse Lassas-Clerc, 2006a; Hattab, 2014; McStay, 2008).

1.7 Operational Definitions

In this sub-section, the operational definitions of the study variables are provided.

1.7.1. Entrepreneurial Career Option (ECO)

Several scholars have used the term entrepreneurial career as a variable in relation to other variables, with majority of cases failing to provide an explicit definition of the term e.g. (Ahmed et al., 2010; Lau, 2002; Lee, Wong, Der Foo, & Leung, 2011). According to Farrington, Gray and Sharp (2011), an entrepreneurial career is defined as the ownership and management of one's small business (Farrington, Gray, & Sharp, 2011). While Moy Luk and Wright (2003) described the term as the decision process

involving the initiation and operation of an entrepreneur (Jane, Moy, Luk, & Wright, 2003). Similarly, entrepreneurial career intention was defined by Mhango (2006) as the intention to study and pursue business career goal (Mhango, 2006).

In the present study, entrepreneurial career option definition is adopted from Moriano, Gorgievski, Laguna, Stephan and Zarafshani (2011) who defined it as a conscious and precise decision made for preference of entrepreneurship as a career (Moriano, Gorgievski, Laguna, Stephan, & Zarafshani, 2011).

1.7.2 Entrepreneurial Opportunity Recognition (EOR)

According to Lumpkin and Lichtenstein (2005), EOR is the ability to identify a good idea and transform it into business concepts that contributes value and revenue (Lumpkin & Lichtenstein, 2005) (p. 457).

However, the present study adopts the definition brought forward by Shane and Venkataraman (2000) who described it as a process where individuals identify, recognize, and discover potential opportunities to create and develop new business, ventures, markets and technology (Shane & Venkataraman, 2000).

1.7.3 Entrepreneurship Education (EE)

Entrepreneurship education is defined as the education course attended or attended by the student at higher education institutions. It is a program defined, in this study, on the basis of the definition provided by Lo (2011) that described it as a process of inculcating knowledge and skill to students for identifying and exploiting business opportunities (Lo, 2011). In other words, this study considers students who have taken part in any entrepreneurship education course or at least one course of the same calibre

at the higher education institutions as referred to by the Palestinian higher education commission.

1.7.3.1 Know-what (KWHAT)

Know-what is described as the knowledge that is needed for entrepreneurship (Lo, 2011).

1.7.3.2 Know-why (KWHY)

Know-why comprises the motive behind the performance of entrepreneurial activities (Lo, 2011).

1.7.3.3 Know-who (KWHO)

Know-who consists of the social interactions with entrepreneurs, teachers, project mentors, classmates and other field professionals (Lo, 2011).

1.7.3.4 Know-how (KHOW)

Know-how consists of methods, skills and abilities related to the performance of entrepreneurial behaviours (Lo, 2011).

1.8 Organization of the Thesis

The present study is organized into five chapters, with the first chapter containing the study background, problem statement, research questions and objectives, research significance, and research scope and the study variables operational definitions.

In Chapter Two, the second chapter presents a brief overview of Palestine, as the context of the study. Moreover, the literature review is presented on studies related to entrepreneurial career, models of entrepreneurial career, entrepreneurial opportunity recognition and entrepreneurial education. The chapter also presents the interrelationship between the above variables and provides a detailed discussion of the underpinning theory namely the Human Capital Theory (HCT). At the end of the chapter, the study's conceptual framework is discussed and presented.

In Chapter Three, the methodology for conducting the study process is presented in detail. The chapter presents the sampling method and data collection methods, the statistical methods utilized to analyse data and the testing of the proposed hypotheses.

In addition, chapter four of this thesis presented the results from data collection process; and survey responses were discussed as well as the issue of non-response bias. Furthermore, the chapter discussed on the data screening process where missing values and outliers were detected and treated as such, and assumptions of multiple regression analysis to ensure compliance with linearity, multicollinearity and homoscedasticity were presented and discussed. The chapter also presented the descriptive analysis of the respondents for the study, results and the major findings of the study, test of the hypotheses and discussion of the findings.

Finally, chapter five provided summary, discussion, conclusion and recommendations of the study. Also in this chapter, implications, limitations of the study as well as direction for future research were presented.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

In this chapter, the literature on the study variable namely, the entrepreneurial career option is established along with its relationship with other study constructs, which are, entrepreneurship education and entrepreneurial opportunity recognition. The related concepts and definitions of the constructs are presented, reviewed and discussed along with the interrelationships among them. The study's proposed theoretical framework is then presented followed by a discussion of the theory that are adopted to underpin the study.

2.2 Overview of Palestine

The Palestinian territories and the occupied Palestinian territories, referred to as OPT or oPT describe the West Bank (with the inclusion of East Jerusalem) and the Gaza Strip, that are both occupied and otherwise, controlled by the Israeli government. The latter government has maintained the area covered under territorial dispute between the two nations. The area of territories is subject to future negotiations but is often delineated by the Green Line.

The United Nations (UN) and other international organizations coined the term, "Palestinian Territory, occupied" and used it between the years 1998 and 2013 to describe the Palestinian National Authority. Since 2012, the UN Secretariat communications changed the term into State of Palestine, and the ISO acknowledged and adopted the change in 2013. However, the UN Security Council continued to

treat Palestine as a non-sovereign entity up until recently, on August 2015 and as such, blocking its membership to the UN General Assembly.

The Israeli occupation of the West Bank and Gaza Strip territories began in the six-day war in 1967 and has since controlled them. In the past, the territories had been occupied by Jordan and Egypt following the founding of Israel in 1948.

By 1980, Israel managed to annex East Jerusalem followed by a proclamation of Jerusalem as its capital city although the inclusion never formally amounted to legal one and was primarily condemned and pronounced null and void by the UN Security Council. Moreover, the Palestinian National Authority, the UN, and other legal international and humanitarian entities and communities still view East Jerusalem as a part of the West Bank, and as such, a Palestinian territory. Specifically, the Palestinian National Authority never really pronounced sovereignty over the area but it kept its offices in the Orient House and other related buildings in the area as an implication to its sovereign interests.

The offices and buildings were shot down by Israel to retaliate for the Sbarro restaurant bombing, after which the country pronounced its sovereignty but was never recognized, as the unilateral territory annexation during war goes against the 4th Geneva Convention. The incurred cost for the Israel occupation over four decades from 1967 to 2007 is approximately $50 billion, with the World Bank estimates of the annual cost incurred by the Palestinian economy of 2013 because of such occupation approximated around $3.4 billion.

By 1988, Jordan renounced all territorial claims to the West Bank, with East Jerusalem, and the Palestinian Liberation Organization (PLO) intended to declare Palestine as a state. Since its declaration of independence in the same year, 135 UN

Member nations have recognized the State of Palestine, consisting of Palestinian territories, with the exception of some Western countries, among which is the U.S.

By 1993, after the Oslo Accords, some of the territories came politically under the Palestinian National Authority jurisdiction, specifically areas A and B, although Israel still had complete military control over a huge portion of the West Bank (61%) (area C). According to the Oslo Accords, an access to the sea for Gaza is established within 20 nautical miles from the shore, after which by 2002, the Berlin Commitment decreased it to 12 miles equating to 19 kilometres. This was followed by the imposition of a 6-mile limit of Israel, at the conclusion of Gaza War, limiting the access to a 3-nautical mile limit, over which exists a no-go zone. Consequently, over 3000 Palestinian fishermen were restricted in their access to 85% of the maritime areas in 1995. Also, most parts of the Dead Sea area are off-limits to the Palestinians and they are not allowed to access the coast line.

Despite the disengagement of Israel from the Gaza Strip in 2005, the international community still views the West Bank and the Gaza Strip as Israeli occupied. Following its disengagement, Hamas took over Gaza in 2007 and proceeded to politically divide it into Palestinian territories. The West Bank became largely ruled by Abbas's Fatah and the international arena recognized it as under official Palestinian Authority (refer to Fatah-Hamas conflict). The two political groups finally agreed to have elections and combine together in a united government and although the intervention of the Israel-Gaza conflict intervened, the unity government lived on.

With regards to the religion in the country, majority of the Palestinians are Muslims, with Sunni as the predominant sect, followed by a dozen or so groups belonging to

the Ahmadiyya Islam located in the West Bank. The Palestinian constitution declares Islam as the official religion of Palestine, with all other divine religions maintained. There are around 1-2% of the population constituted by Christians in the Palestinian territories. Specifically, in Gaza, the Christian population constitutes around 3000 out of the total population, while in the West Bank village of Kiryat Luza on Mount Gerizim, there are around 370 Samaritans holding Palestinian as well as Israeli citizenship. As for the Jewish settlers, they number around 341,000 as of 2012 in the West Bank, and 200,000 in East Jerusalem. The official language within the Palestinian territory is Arabic, with Arabic vernacular, Hebrew and English widely spoken. Hebrew is spoken by 16.1% of the population as a native language, while among Palestinians, Hebrew is considered as a second/third language.


PALESTINIAN TERRITORIES
Mediterranean Sea
SYRIA
WEST BANK
GAZA STRIP
Dead Sea
ISRAEL
JORDAN
EGYPT
Gulf of Aqaba
WEST BANK
Jenin
Tulkarm
Nabulus
Qalqilyah
JORDAN
Ramallah
ISRAEL
Jericho
JERUSALEM
Bethelehem
Dead Sea
Hebron
GAZA STRIP
Mediterranean Sea
Gaza
Dayr al Balah
ISRAEL
Khan Yunis
Abasan
Rafah
EGYPT
Map not to Scale
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(Updated on 14th October, 2014)

2.3 Entrepreneurial Career Option

Entrepreneurial career is known to be form a major part of economic growth and development of a country as evidenced by prior studies e.g. (Carland & Carland, 2010; Henry, Hill, & Leitch, 2005a; Matlay, 2009). This is particularly explained in the economics field where it describes the term as an employment choice (Arenius & Minniti, 2005). An individual's decision to start a business can stem from the need to be employed, in other words, unemployment, or the threat of losing one's position in the workplace in the near future in what is known as the push/desperation effect. Alternatively, the pull effect arises when the individual decides to leverage economic opportunities (Alcalde & Rodriguez, 2002; Bosma & Harding, 2007; Kuratko, 2009; Reynolds & Curtin, 2008; Stel, Thurik, & Baljeu, 2007; Thurik et al., 2008).

Additionally, entrepreneurial career is a concept that has attracted the attention of the circles of academicians and policy makers because of the key role it plays in the provision of innovation, facilitating new employment and maximizing economic growth and the economic social wealth (Altinay et al., 2012; Kitson, Martin, & Tyler, 2004; Malchow-Møller et al., 2011; Van Praag & Versloot, 2007; Wong, Ho, & Autio, 2005). In a related study, Grozdanic (2008) contended that entrepreneurial career refers to culture and an economic phenomenon (Grozdanić, 2008), while in other studies the concept is described as an economic growth driver (Arend, 2014; Bosma , Wennekers, & Amorós, 2012; Ethugala, 2011).

Such career option in an individual level could signify a lifetime goal as opposed to a decision that is decided upon on its own. Hence, it can be stated that entrepreneurship does not always arise because of displaced individuals trying to bail themselves out of an adverse circumstance but rather a socio-economic option (Reynolds & Curtin,

2008). In relation to the causal factors, it can be stated that entrepreneurship is a career option, especially in circumstances where unemployment rate is high. In such cases, unemployment heightens self-employment, whereas the latter mitigates the former (Thurik et al., 2008). Pull and push factors debates have always presented inconclusive arguments in favour and against (Aderemi, Ilori, Siyanbola, Adegbite, & Abereijo, 2009; Campbell & De Nardi, 2009; Delmar & Davidsson, 2000).

Moreover, career choice is a concept that describes the students' decision concerning the professional occupation he is going to adopt, whether entrepreneurial or organizational. Various motivations can be cited in pursuant of self-employment (Feldman & Bolino, 2000). Also, entrepreneurship is a process that describes initiation, exploitation of opportunity, creation of a venture, profit orientation, growth of the economy and change (Drucker, 1985; Hisrisch & Peters, 1989) and as such, to become an entrepreneur, one has to become the centre of economic activities. In this regard, an individual is considered as the one who initiates the action and a driver of socio-economic change and development. On this basis, Kent (1989) referred to an entrepreneur as an individual who introduces novel service/product, creates and implements new technology, opens up a new venture, discovers new or current supply for lacking resource, and acknowledges innovative management (Kent, 1989) (p.154). Entrepreneurship has several characteristics, which include, self-employment, creativity and innovation, exploitation of opportunities, risk-taking, initiation, financial gain, recognition of achievement and success, independence, responsibility, confidence, family tradition, economic growth, work commitment, innovation and social networking skill (Al-Wadi, 2005; Aziz, Friedman, & Sayfullin, 2012; Bird, 1989; Drucker, 1985; Fatoki, 2010; Yalcin & Kapu, 2008).

Moreover, according to Dyer Jr. (1994), Lent, Brown & Hackett (1994) and Schein (1993), entrepreneurial career development entails several stages, of which one is the decision to take up an entrepreneurial career goal, known as an entrepreneurial career choice (Dyer , 1994; Lent, Brown, & Hackett, 1994; Schein, 1993). In the present study, entrepreneurial career choice definition is adopted from Moriano et al. (2011) who defined it as a conscious and precise decision made to prefer entrepreneurship as a career (Moriano et al., 2011). The decision to immerse in entrepreneurship as a career may be considered as the choice of a particular career among several alternatives (Douglas & Shepherd, 2002; Pihie & Akmaliah, 2009). Generally, career choice is preferred over a career in full-time employment within a formal company (Kolvereid, 1996a; Tkachev & Kolvereid, 1999; Zellweger, Sieger, & Halter, 2011).

Furthermore, Reilly et al. (2000) described an individual's entrepreneurial career decision as a voluntary and conscious process (Krueger, Reilly , et al., 2000), with entrepreneurial intention deemed to be its top predictor (Ajzen, 1991; Davidsson, 1995; Fitzsimmons & Douglas, 2011; Liñán, Rodríguez-Cohard, et al., 2011; Shapero & Sokol, 1982). Also, an entrepreneurial career choice can be referred to as a voluntary decision to take part in a starting a new business venture and be an entrepreneur as explained by Drennan, Kennedy and Renfrow (2005); Souitaris et al. (2007). Along a similar line of claim, Moriano et al. (2011) revealed that ECO is a voluntary and accurate decision making as to opt for entrepreneurship as a career choice (Moriano et al., 2011). In this regard, it is considered as a mental process that directs the decision of the individual to becoming an entrepreneur (Boyd & Vozikis, 1994; Gupta & Bhawe, 2007). Linan (2008) meanwhile stated that entrepreneurial

decision hinges on the attitude, perceived control and the perceived social pressure of the individual to become or not to become an entrepreneur (Linan, 2008).

Added to the above studies, the decision of an individual to be an entrepreneur is frequently pre-determined by various factors including but limited to the dynamic career world, the personal attributes of the person, the characteristic of his career option, financial factors, education factors, family background and the individuals he admires (role models) (Douglas & Fitzsimmons, 2008; Liñán & Chen, 2009; Liñán, Rodríguez-Cohard, et al., 2011; Zhang et al., 2014). Added to the above factors, an individual's personal attributes including opportunity recognition capability, self-confidence, need for achievement, independence and autonomy are primarily what determines his career in entrepreneurship (Carrier, 2007; Douglas & Shepherd, 2002; Martinez, Levie, Kelley, Sæmundsson, & Schøtt, 2010; Politis, 2005). On this basis, educators of entrepreneurship have to keep the modules and teaching approach into consideration as these may influence the attitudes of students and their inclination towards a career of entrepreneurship – this is supported by Byabashaija and Katono (2011); Morris , Webb and Singhal (2013); Nieuwenhuizen and Groenewald (2008).

Majority of studies dedicated to the topic revealed that career choices are determined by various motives (Haase & LautenschlaGer, 2011). Theories have been proposed over time to shed light on the reasons behind the decision to initiate a particular occupation or career in entrepreneurship. Among such theories, the promising ones include the Theory of Social Learning by Bandura (1977), the Entrepreneurial Event Theory by Shapero and Sokol (1982) and the Theory of Planned Behaviour by Ajzen (1991). Generally speaking, motives can be categorized into cognitive personal factors, and contextual/environmental factors (Haase & LautenschlaGer, 2011). These

motives can positively or negatively influence the chosen career, their integration and interaction is the frequent molder of the decision of the individual to follow a certain career goal.

The next sub-sections contain a more detailed description of the related theories proposed in literature concerning entrepreneurial career choice and related variables.

2.3.1 Social Learning Theory by Bandura

The Social Learning Theory came about in the works of Bandura that attempted to explain human behaviour based on a psychological viewpoint. The theory posits that the behaviour of the individual, personal factors as well as environmental factors impact each other in different ways according to the environment and the behaviour under focus (Bandura & Walters, 1977) .

Later, the Social Learning Theory came to be known as the Social Cognitive Theory after many developments (Bandura, 1986), which includes, the integration of new variables that stemmed from his human behaviour analysis. The developed theory highlighted the concept of triadic reciprocity for the first time to shed light on the interactions between individuals, their behaviours and their environments (Bandura, 1986).

The Social Cognitive Theory is composed at the core by the self-efficacy construct (Bandura, 1999; Bandura et al., 2001). Self-efficacy is considered as the conviction level of individuals in their effectiveness to carry out the behaviour that is needed to bring about particular results (Bandura & Walters, 1977). According to Bandura (1977), self-efficacy explains human behaviour although skills and incentives have to

exist within the individual for him to take advantage of his self-efficacy and to explain his behaviour in an effective manner (Bandura, 1977).

Juxtaposing this context in the career-choice situation, self-efficacy can be considered as an explanatory variable in career choice as it demonstrates the way individuals tend to ignore occupations that they lack the capabilities to do, despite their appeal. Keeping the ability variable constant, previous academic achievement level, scholastic aptitude and vocational interest as well as the perceptions of self-efficacy are the top predictors of occupational choices (Bandura et al., 2001).

The Social Cognitive Theory was applied by Bandura (1997) to different psychosocial fields (p.212-524), where other authors tried to develop it based on career-choice context. For instance, Krumboltz and Mitchell (1976) used the theory to examine career choice and they found that individuals are more inclined to choose a specific occupation if they can observe role models that have successfully gone through the activities as part of the occupation (Krumboltz, Mitchell, & Jones, 1976).

2.3.2 The Theory of the Entrepreneurial Event by Shapero and Sokol (1982)

Shapero and Sokol (1982) started the development of their theory based on their critique of the definitions of entrepreneur present in literature (p. 77-78). They instead focused on the defining the concept by focusing on its elements namely initiative-taking, consolidation of resources, management, relative autonomy and risk-taking (Shapero & Sokol, 1982).

The Theory of the Entrepreneurial Event came to being by the authors answer to two fundamental questions which are; 1) what brought about the action that led to a change in the entrepreneur's former life path? and 2) why does the entrepreneur

choose to follow this particular path, the generation of the an entrepreneurial even and not one of the myriad other actions available? (p. 78).

They addressed the first question by focusing on the vectors and forces that drive the individual to move along one track at a specific time, and contended that a force or an accumulated effect of many forces is needed to propel the individual to take another direction (Shapero & Sokol, 1982, p.79). They proceeded to explain that people have different reactions to different forces (p.82) and that the nature of such reaction hinges on the perceptions and interpretations of the individual of them, that leads to the differences among individuals' psychological differences (Shapero & Sokol, 1982).

As for the second question that begs to answer why a specific action is followed over other alternative actions, Shapero and Sokol (1982, p.82-87) explained the concepts of perceptions of desirability and feasibility. The former is related with the value systems and is linked to the desirability of starting a business, while the latter is related to the feasibility of initiating a business venture and this covers the financial support factor, among others. The authors introduced a third concept to expound on the reason behind choosing one path over alternative paths, and whether or not the reason is a propensity to act or a personal disposition to act upon one's decisions.

In the present study, it is notable that entrepreneurial ventures are considered to stem from the interactions between situational and cultural factors as explained by Shapero and Sokol (1982, p.87) that are covered by perceptions of desirability and feasibility.

In relation to the theory, De Clercq, Honig and Martin (2013) investigated the way individuals' entrepreneurial-career choice intentions are affected by the belief of their abilities of becoming successful entrepreneurs, and the appeal of such career goal,

with the help of concepts that mimicked perceived feasibility and perceived desirability (De Clercq, Honig, & Martin, 2013).

2.3.3 The Theory of Reasoned Action by Ajzen

According to Ajzen (1985), human action follows explicit or implicit well-developed plans (p.11) and that actions are guided by intentions although not all intentions are acted upon. Some intentions are revised while others are dropped. The author investigated the relationship between intentions and actions, particularly the way in which goals and plans affect behaviour, and the way the factor can direct people to replace their intentions with others or to prevent them from conducting the behaviour successfully (Ajzen, 1985).

In addition, Ajzen shed light on internal and external factors that prevent the relationship between intentions and behaviour, where such relation can be prevented at two areas; first, at the intention level that can change over time because of personal and situational factors and second, at the performance of the behaviour level, where internal and external factors can play a role in hindering the performance of the action intended by the individual.

The Theory of Reasoned Action is a special extension of the Theory of Planned Behaviour (Ajzen, 1985, p.35). Stated clearly, when the perceived behavioural control becomes high and equal to the complete degree of control over the behaviour, the individual can control the entire factors that could prevent the intentions-behaviour relationship and the possibility of the behavioural attempt becomes equal to the probability of behavioural performance.

In this study, it is notable that Ajzen (1985) covered the following variables under perceived behaviour control; subjective probability of successful performance of a behaviour, the subjective probability of successful attribution to the referents, and the control level over internal and external factors.

This theory has been extensively utilized to provide insight into human behaviour by other authors in literature. Specifically, Gird and Bagraim (2008) used the Theory of Planned Behaviour in their attempt to predict the entrepreneurial intentions of university students. Their findings showed the theory is successful in explaining a good proportion of the variance in the entrepreneurial intentions of students (Gird & Bagraim, 2008, p.718). The findings also revealed that prior experience to entrepreneurship impacted entrepreneurial intentions via the effect on the intention determinants, namely, attitude towards behaviour, subjective norm and perceived behavioural control (Gird & Bagraim, 2008).

2.4 Entrepreneurship Education

Throughout the globe, the development of entrepreneurship education has experienced a notable growth owing to fact that entrepreneurship is considered as the key driver of the economy and competitiveness (Martínez, Levie, Kelley, Sæmundsson, & Schøtt, 2010). According to Hansemark (1998), traditional education is characterized as a transformation of knowledge and abilities, whereas entrepreneurship education forms a model that transforms attitude and motives (Hansemark, 1998). The latter education also has benefits highlighted by Holmgren, From, Olofsson and Karlsson (2005), including the promotion of business start-ups and extensive market potential (Holmgren, From, Olofsson, & Karlsson, 2005).

Moreover, when starting a new business, two of the top significant requirements for success are desirability and ability. Also, entrepreneurial attitudes are required during the traditional entrepreneurial career and also in independent employment interactions (Frank, Korunka, Lueger, & Mugler, 2005). In this background, entrepreneurship education attempts to advocate to the youth to be responsible enterprising individuals and be entrepreneurial thinkers that can contribute to the progress of economy and the communities' sustainability.

On the basis of the European Commission communication, entrepreneurial mind-sets can be promoted via education and learning and accordingly entrepreneurship is described as the ability of the individual to transform ideas into actions through his creativity, innovation and risk taking and it is the ability to plan and oversee projects to realize aims and goals (Communities, 2006). This definition describes everyone in their daily home life and society and promotes awareness among employees of their work, seizing opportunities and thus, provides a basis for entrepreneurs to set up their commercial activities (Communities, 2006) (p.4).

Moreover, the Consortium for Entrepreneurship Education (2008) reported that entrepreneurship education is teaching the individual how to run a business in addition to encouraging him to use his creative thinking, promoting his self-worth and empowering him. In other words, entrepreneurship education teaches students how to start-up businesses and everything that is relevant to running it. The main knowledge generated through such education are; recognition of opportunities in life, ability to pursue opportunities by coming up with new ideas and the required resources, creation and operation of new firms, and ability to be creative and critical (DeTienne & Chandler, 2004). Therefore, aside from business knowledge and skills,

entrepreneurship education is also about developing specific advantages, values and attitudes with an attempt to promote students' consideration of entrepreneurship as a potential and viable alternative to company employment or even unemployment (Holmgren et al., 2005; Sánchez, 2011).

In other words, entrepreneurship has permeated the academic as well as the teaching field as described by Fayolle and Gailly (2008), In particular, although entrepreneurship education is a novel academic field, it has achieved increasing acknowledgement for its contribution to the creation of entrepreneurial culture, attitude, skills and competencies among students (Hattab, 2014; Josien & Sybrowsky, 2013; Keogh & Galloway, 2004; Kuratko, 2005). As a consequence, considerable efforts from the academic field have been exerted on focusing on EE in times that made the field flourish and gain ground (Giacomin et al., 2011; Matlay, 2010; Ramsey, Smith, Martin, & Gibb, 2011).

There are various proposed definitions of the term entrepreneurship education in literature. More specifically, Hood and Young (1993) described it as the teaching of individuals to start new venture in a successful manner and to operate it profitably, and ultimately, help the growth and development of the economy (Hood & Young, 1993). In another study, Bechard and Tolohous (1998) defined it as the objective behind new business creation (Bechard & Toulouse, 1998), while Davidson (2004) referred to entrepreneurship education as the training of students on the identification of business opportunities, their evaluation and pursuant with certain approaches (Davidsson, 2004). These definitions indicate that the teaching curriculum should be developed in a way that the target audiences' competencies and skills are targeted for entrepreneurial activities.

Meanwhile, Fayolle, Gailly and Lassas-Clerc (2006) referred to entrepreneurship education as an education process that inculcates entrepreneurial attitudes and skills (Fayolle et al., 2006a). Moreover, Lo (2011, p.36) defined entrepreneurship as the process that entails the transmission of entrepreneurial knowledge and skills to students to assist in their exploitation of business opportunities (Lo, 2011), while Chang et al. (2013) stated that major objective of an entrepreneurship education program is to affect the individuals future behaviour and to achieve successful businesses (Chang, Liu, & Huang, 2013).

It can thus be stated that entrepreneurship education main aim is to identify opportunities for business (Davidsson & Honig, 2003; Ucbasaran, Westhead, & Wright, 2008). Different programs and classes on entrepreneurship in various universities offer the required knowledge and skills to become an entrepreneur (Oosterbeek, Van Praag, & Ijsselstein, 2010) but the question that needs addressing is whether or not such programs motivate the youth to starting up businesses that can increase business activities in the area.

In other related studies, the main objective of entrepreneurship education is highlighted to be the improvement of students' mind-sets, their behaviours, skills, capabilities in being entrepreneurs that could generate future pool of entrepreneurs (Chang & Rieple, 2013). Added to this, EE plays a key role in developing the entrepreneurial capabilities of the individual (Hannon, 2005; Lewrick, Omar, Raeside, & Sailer, 2011; Matlay, 2009; O'Connor, 2013). The introduction of EE was geared towards improving the ability of the students to identify business opportunities in the area that could enable their self-employment and self-reliance while improving their skills of employability (Ramsey, Smith, Martin, Draycott, & Rae, 2011).

Additionally, the need for HEIs to promote entrepreneurial career and generate entrepreneurial mind-sets through EE was acknowledged in the study conducted by (Lourenço & Jayawarna, 2011). Other studies of the same calibre identified EE results concerning competencies and activities, skills, knowledge and attitudes (Chang & Rieple, 2013; Gibcus, de Kok, Snijders, Smit, & van der Linden, 2012; Solomon & Matlay, 2008), entrepreneurial career (Block, Hoogerheide, & Thurik, 2011; Douglas & Shepherd, 2002; Nabi & Liñán, 2013; St-Jean & Mathieu, 2015; Taatila, 2010).

Currently, entrepreneurship as well as entrepreneurship education is required more than ever before to adapt to the global competitiveness via the prediction of the long-term needs (Morris et al., 2013). Thirteen major competencies were identified by Morris et al. (2013) for entrepreneurship, among them being opportunity recognition, opportunity assessment and self-efficacy. They recommended the inclusion of these competencies into the entrepreneurship education programs syllabus to generate successful entrepreneurs. They proceeded to explain that such competencies will assist students in determining the opportunities and adopt a more viable approach to entrepreneurship prior to their entrepreneurial career goal (Morris et al., 2013).

Therefore, the main objective behind the entrepreneurship education program is to improve the awareness of students and to stress on the fact that entrepreneurship is a career option (Fayolle & Gailly, 2015). In fact, entrepreneurship education programs are a must to make HEIs capable of realizing educational goals indicating that graduates should create their own jobs rather than just merely seek them (Schulte, 2004). At this point, the question that has to be addressed is how to inculcate entrepreneurship through programs teaching contents and methods.

In this regard, literature contains various takes on the teaching of entrepreneurship, with some authors recommending its stress on theories and principles regarding the concept as these are invaluable in developing the students' cognitive skills (Fiet, 2001a, 2001b). Other authors contended that the teaching should focus on practical activities of opportunity identification and action-centered methods e.g. (Ireland, Hitt, Camp, & Sexton, 2001; Johannisson, Landstrom, & Rosenberg, 1998; Piperopoulos & Dimov, 2015). A balanced take came from Anderson et al. (2008) who explained that entrepreneurship teaching should be based on theory and practice of entrepreneurship (Solomon, Anderson, & Jack, 2008), while Knight (1987) related that the key elements of entrepreneurship should be stressed in programs and classes and these include opportunity identification, strategy development and resource allocation (Knight, 1987). Some other authors suggested that entrepreneurship education should be based on the introduction of the concept as a career alternative (Donckels, 1991; Fayolle & Gailly, 2015; Hills, 1988).

2.4.1 Entrepreneurship Teaching Methodology

According to Neck and Greene (2011), entrepreneurial teaching has to have its basis on the practice of portfolio developed on pedagogies (Neck & Greene, 2011). Such method employs knowledge applications and actions via simulation, reflective practices, design, and games integrated into the course work. Another take of the entrepreneurial teaching method came from Sarasvathy and Venkataraman (2011) who stated that in an attempt to educate, legislate and acculturate an entrepreneurial society, it is optimum to follow the precedent established by the scientific method, rather than viewing science as a profession despite the fact that it can be treated as a crucial part of fundamental education(Sarasvathy & Venkataraman, 2011)(p.120).

Meanwhile, Wood, Welter, Artz and Bradley (2014) brought forward a pedagogy that identifies the opportunity type and action matching in individuals or teams, based on which the activities types that follow are identified as based on the opportunity type. This pedagogy furnishes a rationale for the appropriateness of some actions over others in terms of the pursued opportunity. They proceeded to explain that for case studies instruction, specific means-end opportunities type categories are more appropriate such as replication, reinterpretation, revelation and revolution (Wood, Welter, Artz, & Bradley, 2014). For instance, opportunity recognition calls for a revelation of opportunities type and as such, the case study for teaching entrepreneurial opportunity identification should match this category.

Moreover, entrepreneurship teaching/training using workshops has a tendency to be practiced in masse, while semester format entrepreneurship teaching is more a distributed practice (Bae, Qian, Miao, & Fiet, 2014). In past studies, distributed practice was evidenced to assist students in retaining novel materials and remembering them and these influence learning (Cepeda, Pashler, Vul, Wixted, & Rohrer, 2006). Thus, the students in semester format entrepreneurship learning are enabled to understand more as compared to workshop students.

In this background, the provided entrepreneurship courses at the universities can be deemed as education promoting entrepreneurial awareness. Teachers are not attempting to transform students into business owners after the completion, but they attempt at making them aware of entrepreneurship and they motivate their pursuit of an entrepreneurial career in the long-term. In this regard, entrepreneurship awareness course is appropriate to be provided as a general course in universities (Liñán, 2004; Lo, 2011). There are four noted components comprising the core of entrepreneurship

education according to Lo (2011) as evidenced in Johannison's study that offered classification of entrepreneurship learning aspects (Lo, 2011).

More specifically, Johannison (1991) classified entrepreneurial learning into certain divisions and they are, know-what representing entrepreneurial knowledge, know-why representing values and motives, know-who representing social interaction, know-how representing entrepreneurial skills and abilities and know-when representing intuition and the right for business start-ups (Johannisson, 1991). Such dimensions are clearer and more specific and can thus be deemed as the entrepreneurship's learning aspects and entrepreneurship education components (Lo, 2011). The dimensions match the present study's objectives as to the way specific education components affect entrepreneurial career and as such, in this study, the dimensions are adopted as reflecting the entrepreneurship learning components.

Johanisson's (1991) empirical study of the learning dimensions have been extensively employed by researchers in the field of entrepreneurship education in the past few years e.g. (Fayolle et al., 2006a; Alain Fayolle, Benoît Gailly, & Narjisse Lassas-Clerc, 2006b) and (Souitaris et al., 2007) that made use of the learning dimensions and advocated their appropriateness in describing the entrepreneurship learning aspects.

2.4.2 Entrepreneurship Education Components

Johannison's (1991) study provided five learning dimensions namely know-what, know-why, know-who, know-how and know-when and these dimensions are what comprises the entrepreneurship education.

2.4.2.1 Know-what

Know-what concerns the concepts and knowledge of the term entrepreneurship. Efforts have been made by researchers to develop various concepts and knowledge to comprise the content of entrepreneurship programs. In fact, according to Widding (2005), entrepreneurial knowledge is a part of human capital that is required for entrepreneurial initiatives and successful and economic sustainability (Widding, 2005). This type of knowledge reflects the conceptual and analytical understanding of the many functions and facets of the entrepreneurship process. More specifically, know-what generally defined as the content-level of knowledge concerning entrepreneurship (Johannisson, 1991). Any entrepreneur program is basically aimed towards the promotion of entrepreneurial knowledge awareness. It is important for students to understand entrepreneurship as career option that is alternative to other careers (Kent, 1990). It is also important to inculcate the acquisition of knowledge and sources required for new business start-ups among students.

Furthermore, the know-what dimensions should comprise of particular business and commercial knowledge domains, with the inclusion of functional aspects namely, resource marshalling and finance, marketing and salesmanship, idea generation and opportunity discovery, business planning, team building, new venture creation, risk management, legal issues and organizational management (Lo, 2011). In this respect, Gartner (1989) described entrepreneurship as requiring greater knowledge of how to create business (Gartner, 1989).

2.4.2.2 Know-why

This dimension reflects the motivations, sense of purpose, the personal meaning as well as the identification with the work that is carried out (DeFillippi & Arthur, 1994). Essentially, entrepreneurial motivations is described as the tendency towards organization, manipulation and mastering organizations, human beings or premises in a timely and independent manner (Johnson, 1990).

Know-why is related to several questions, the primary of which are; Why is there an entrepreneurship? Why entrepreneurs start their businesses? Why should we study entrepreneurship? What are the benefits of entrepreneurship (money, social status, interest, excitement, challenges or contribute to society), How do entrepreneurial knowledge and skills benefit a person's career/job performance? This dimension is basically a spiritual one as it represents the identification of students of themselves in their pursuit of an entrepreneurial attempt. This identification may be linked to their personal profile and characteristics concerning the concept (Fayolle & Gailly, 2008). Furthermore, know-why consists of the values and motives behind starting entrepreneurial activities and the attitude of the initiator towards the happenings.

Therefore, an entrepreneurship program has to develop the competence of know-why to boost the students' entrepreneurial attitude. The courses should specifically inculcate the entrepreneurial spirit within students. Students should be taught that entrepreneurs possess different backgrounds and that their future opportunities is a crucial aspect in the entrepreneurship course provided (Lo, 2011).

2.4.2.3 Know-who

Know-who reflects the social interaction and based on the study conducted by Lundvall (1998), this dimension entails the social capability towards cooperating and communicating with various people and experts (Lundvall, 1998)(p.417). Realistically, entrepreneurs have to interact with various individuals to obtain information, resources and support in their quest to create and manage new start-ups. Making connections with the relevant individuals and obtaining useful information, skills and support from them are significant to developing entrepreneurship. In this regard, know-who can be described as social capital and the connections of relationships providing individuals with contacts, resources, work opportunities, and career personal support (Cappellen & Janssens, 2008; Gayle Baugh, Sullivan, & Molloy, 2005).

In the case of awareness education, know-who concentrates on the social interaction among students and referents of entrepreneurship, who include teachers, guest instructions and speakers who come from a pool successful entrepreneurs, graduate entrepreneurs, and other field experts. Interacting with the mentioned referents can be considered as an emotional and practical support to the students of entrepreneurship (Histrich, Peters, & Shepherd, 2010). Instructions of the course should have good entrepreneurial connections in order to convince the guest speakers to the provided courses programs (Matley & Hegarty, 2006).

2.4.2.4 Know-how

Know-how addresses the questions; how to take entrepreneurial actions? and how to deal with a given situation? For instance, the question as to the way allocation of resources, identification of risks entailed in making decisions, dealing with risks,

checking the sufficiency of entrepreneurial action and personal profile, as well as other questions linked with entrepreneurial methods and skills (Henry, Hill, & Leitch, 2005b). Moreover, the dimension of know-how stresses on the skills and methods that are crucial for successful entrepreneurship. The application of entrepreneurial skills and techniques learned by the students enable the summary of the major learning findings in a practical sense. Such practices provide the students with invaluable feedback.

Moreover, this dimension is a reflection of the investments of the individual in the job-related skills and expertise, such as formal education and training, informal or experiential knowledge and learning from separate events and self-reflections as explained by (Cope, 2003). In the current knowledge economy, individuals take advantage of the ongoing knowledge and skills development that goes beyond their job demands in the hopes of maximizing their know-how and improving their employment opportunities (Fugate, Kinicki, & Ashforth, 2004; Inkson & Arthur, 2001). This dimension is reflective of the human capital theory (Becker, 2009) that combines formal and informal education with on-the-job learning (Kolb, 1984).

The dimension also covers creativity skills, decision making, communication skills, confidence, management skills, logical thinking, analytical skills, goal-setting skills, generation of business ideas, identification of opportunities and their analysis, as well as the abilities and methods of business plan preparation and presentation (Lazear, 2004; Michelacci, 2003). This also includes human capital comprising natural skills in the form of intelligence coupled with abilities obtained via education or professional experience (Tihula & Huovinen, 2010; Wagener, Gorgievski, & Rijsdijk, 2010; Wu, Wang, Tseng, & Wu, 2009). The related skills are important in effective resolution of

issues on the basis of the acquired knowledge on entrepreneurship. Essentially entrepreneurship courses or programs have to provide and hone students' creative thinking and their skills in solving problems. This also encapsulates the students' skills and abilities with working as a team while learning, which is a required entrepreneurship skill.

With regards to the fifth dimension, namely know-when, it is not considered in the present study as it is linked to intuition. According to Johannisson (1991), intuition can be trained via robust entrepreneurship experience. It is a dimension that is naturally obtained when entrepreneurship achieve successful or unsuccessful firm creation. Since this dimension is improved through experiences, it is impossible to teach students who may lack the experience or even the interest in the subject in the first steps of entrepreneurship education or in the awareness education. This explains the inapplicability of the dimension in this study. In other words, the education components adopted in the present study and included in the conceptual model comprises four dimensions and they are know-what, know-why, know-who and know-how.

On the basis of the discussion of entrepreneurship, a course on the subject can be taught to the students as a semester format. In this study, entrepreneurship education is defined as the process of teaching entrepreneurial knowledge and skills to students to assist them in not merely exploiting opportunities of business but to keep a look out on them. In this respect, students are expected to develop their attitudes in entrepreneurship and to boost their pursuit of entrepreneurial career in the long-run (Matlay, 2005; Sondari, 2014).

2.5 Entrepreneurial Opportunity Recognition

As far as the entrepreneurship concept is concerned, the economic theory is the predominant theory and since the entrepreneurial opportunity recognition stems from the entrepreneurship literature, it becomes a must to shed light on the entrepreneurial opportunity recognition in terms of its nature from the perspective of economy. On the basis of the economic theory, Wang, Ellinger and Jim Wu (2013) stated that the entrepreneurship literature is categorized into two school of thought namely neoclassical equilibrium theory and the Austrian theory(Wang, Ellinger, & Jim Wu, 2013). More specifically, the neoclassical equilibrium theory posits that every individual can recognize entrepreneurial opportunities and it is their risk-propensity that reflects whether or not they become an entrepreneur (Kihlstrom & Laffont, 1979). The theory however failed to shed light on the entrepreneurship framework and the presence of opportunities as contended by (Eckhardt & Shane, 2003).

Moreover, selecting and identifying suitable opportunities for businesses are among the most significant and important qualities of the (a successful) entrepreneur. Recognition of Opportunity is considering one key factor of success and survival of a company. Opportunity recognition is also considered one of the most relevant aspects in entrepreneurship and many definitions of entrepreneurship focus on the pursuit of opportunities. Furthermore, Schumpeter (1934) defined opportunity recognition as a good chance to meet a market needs by a creative mix of resources to creates superior value. In related study, Singh (2000) described an entrepreneurial opportunity as "a feasible, profit seeking potential venture that provides an innovative new product or service to the market, improves on an existing product/service or imitates a profitable product/service in less than saturated market".

Additionally, Baron (2006) defined opportunity as "a perceived means of generating economic value (i.e. profit) that previously has not been exploited and is not currently being exploited by others", and opportunity recognition as "the cognitive process through which individuals conclude that they have identified an opportunity". Therefore, explaining the discovery and development of opportunities is a key aspect of entrepreneurship research. Furthermore, Shane and Venkataraman (2000) stated that the field involves the study of sources of opportunities; the processes of discovery, evaluation and exploitation of opportunities; and the set of individuals who discover, evaluate and exploit them. Along a similar line of claim, Timmons and Spinelli (1999) affirmed: "Entrepreneurship is a way of thinking, reasoning, and acting that is opportunity obsessed, holistic in approach, and leadership balanced for the purpose of value creation and capture. (...) At the heart of the process is the creation and/or recognition of opportunities, followed by the will and initiative to seize these opportunities. It requires a willingness to take risks- both personal and financial-but in a very calculated fashion in order to constantly shift the odds of success, balancing the risk with the potential reward".

On the other hand, the Austrian theory posits that individuals cannot recognize all opportunities and it stresses on the imperfect market having information asymmetry that produces an information gap, and the ad-hoc appearance of opportunities rather than its appearance in a well-structured informational form (Venkataraman, 1997). In relation to this, Kirzner (1997) showed that the information distribution in the society impacts the identification of entrepreneurial opportunities and only a small proportion of individuals are skilled at identifying and recognizing a specific market opportunity. Added to this, the discovery of opportunities is a process that is dependent on the ability of the individual to do so and his discovery inclination (Kirzner, 1997).

Recognizing opportunities has been evidenced to be a core element and it forms the first entrepreneurship phase (Fatima, Iqbal, Rehman, & Ali, 2011). Also, entrepreneurial opportunities have been categorized based on various points of view and it is thus challenging to develop a definition of the concept as different people view it differently (Lim & Xavier, 2015). Several researchers have tried to provide definitions and the resulting definitions in literature differ from one to the next (Baron, 2006; Kirzner, 1997; Shane & Eckhardt, 2003) but despite the differences in the definitions, there is a commonality in defining the term. Essentially, it is a discovery of a premise reflecting the creation of new businesses and the determination of information concerning possibilities in the market and technology (Ozgen, 2003). In particular, entrepreneurial opportunities was defined by Shane and Venkataraman (2000) as the situations wherein novel goods, services, raw materials, markets and methods of organization can be launched and sold at a price that is higher compared to their production cost (Shane & Venkataraman, 2000). Along a similar line of definition, Lumpkin and Lichtenstein (2005) described EOR as the ability to determine a good idea and to change it into an entrepreneurial concept or to enhance an existing venture that contributes to customer/societal value and produces entrepreneurial revenues (Lumpkin & Lichtenstein, 2005).

Meanwhile, according Saemundsson and Holmen (2011) explained that an opportunity is discovered when a conjecture is developed concerning the distinction between the current and future resource value (Saemundsson & Holmén, 2011). The above definitions indicate the high complexity of the opportunity recognition phenomenon and extant studies in the field overlap throughout a general group of disciplines covering management, organization theory, marketing and entrepreneurship (Ardichvili, Cardozo, & Ray, 2003). In fact, the identification and

selection of the appropriate opportunities for new start-ups are among the top successful entrepreneur abilities as evidenced by (Ardichvili et al., 2003; Roberts, Stevenson, Sahlman, Marshall, & Hamermesh, 2006). As a consequence, providing insight into the identification and development of opportunities form a major proportion of literature dedicated entrepreneurship (Venkataraman, 1997). In order for entrepreneurs as well as potential ones, they can create and operate new businesses at a successful rate only if they develop an intention to initiate new business and determine opportunities overlooked by others and exploit them in an effective and timely way (Dutta, Li, & Merenda, 2011). It goes to show that the development of the abilities to identify opportunities forms a critical element of the process of entrepreneurship as EOR has long been acknowledged as a major phase in the process (Ozgen & Baron, 2007). Also, without such capability, there will be no entrepreneurship as explained in the study conducted by (Short, Ketchen, Shook, & Ireland, 2009), and thus, entrepreneurship education should work towards improving this ability (Liñán, Rodríguez-Cohard, et al., 2011; Lumpkin, Hills, & Shrader, 2004). Moreover, the ability to identify opportunities also assists individuals in career management (Sardeshmukh & Smith-Nelson, 2011).

Its importance has made the identification of opportunities a pre-requisite element of scholarly studies and those dedicated to entrepreneurship and as a result, considerable interest has been focused in examining its drivers (Gregoire, Shepherd, & Lambert, 2010). Additionally, researchers have stressed on the crucial role of entrepreneurship in boosting new business development as well as in recognizing and pursuing novel opportunities of entrepreneurship (Cassell & Fillis, 2006; De Carolis & Saparito, 2006). Prior to making decision of innovation, it is pertinent for individuals to identify

accurately what the new opportunity as the contrary could mean could incur financial losses (Wang et al., 2013).

Along a similar line of studies, Hills (1995) and Lim and Xavier (2015) detected that occurrence of opportunity recognition at the early phases of the venture formation and its recurrence throughout the lifetime of the business (Hills, 1995; Lim & Xavier, 2015). Therefore, by encouraging such recognition, the aspiring entrepreneurs can be inspired to act on their ideas and deal with entrepreneurship by considering it as a career alternative (DeTienne & Chandler, 2004).

Based on the above discussion, an entrepreneurship pedagogy that is focused on boosting entrepreneurial careers should concentrate on improving the perspective and cognitive processes of the concept, with opportunity recognition as one of them (Sardeshmukh & Smith-Nelson, 2011). The paradigm has been noted to be transforming in terms of entrepreneurship education, with educators urged to focus on the behaviour and specific situations entailed in the process of entrepreneurship (Fayolle & Klandt, 2006), which includes the recognition of opportunities (Gaglio, 1997; Gaglio & Katz, 2001). Literature on entrepreneurship education states the identification or recognition of opportunities should be made a part of the curriculum and it should form the core of programs/trainings geared towards potential entrepreneurs (Saks & Gaglio, 2002).

Several factors have been found in literature to affect the process of recognizing opportunities – such factors can be divided into personal characteristics like prior knowledge/information (Ardichvili & Cardozo, 2000; Shane, 2000), entrepreneurial alertness (Kirzner, 1973; Tang, Kacmar, & Busenitz, 2012), entrepreneurial learning (Corbett, 2007; Dimov, 2007a, 2007b), creativity (Ardichvili et al., 2003; Shane,

2003), and external elements like environment change (Baron, 2006; Shane, 2003), as well as social connections (Singh, 2000). On the basis of the literature reviewed, most contentions concerning the top effective opportunity recognition factors lean towards one of the mentioned categorizations. Stated clearly, opportunity recognition stem from various information resources like prior knowledge and facilitating cognitive characteristics in light of the two concepts namely alertness and learning within the EOR process (Hajizadeh & Zali, 2016).

More specifically, prior knowledge is described as the information sources culled from work experience, education or other ways (Shepherd & DeTienne, 2005), and entrepreneurial alertness and learning – to top cognitive entrepreneur characteristics that assists in the gathering, organizing and processing novel information (Dimov, 2007a, 2007b; Gaglio & Katz, 2001).

2.6 Entrepreneurship Education and Entrepreneurial Career Option

In the past years, models proposed addressing intention such as those by Ajzen (1991) and Bird (1988) encapsulating the relationship between individuals and behaviours have become significant methods to shed light on the phenomenon of entrepreneurship. Added to this, psychologists revealed that intentions are significant predictors of subsequent behaviour (Ajzen, 1991; Ajzen & Fishbein, 1980). Researchers have also revealed that intentions can predict activities of job search (Van Ryn & Michelle, 1990) and career choice (Kolvereid, 1996b). More importantly, variables like entrepreneurial intentions have been found to explain and predict decisions concerning entrepreneurial career choice (Falck, Heblich, & Luedemann, 2012; Krueger, Reilly, & Carsrud, 2000).

In a related study, Gorman, Hanlon and King (1997) reviewed literature in the past decade that is related to EE and revealed that initial evidence proposes entrepreneurial career to be impacted via EE (Gorman, Hanlon, & King, 1997). Several studies in this direction measured entrepreneurial career intentions by using students that have taken part in the EE programs as samples. To begin with, Jones et al. (2008) used a sample of 50 students prior to and after participating in an EE program at a university in Poland. He found a positive relationship between EE and the entrepreneurial career of students (Jones et al., 2008). Also, in Wambugu's (2005) study, he examined the relationship among risks, investment and EE in the Nairobi, Kenya context and concluded that an individual's education level impacts his level of entrepreneurial activities. He also found that low educational levels are the causes of low business growth and failure of entrepreneurial ventures (Wambugu, 2005).

Moreover, in a related study conducted by Matlay et al. (2015), the authors investigated the impact of EE on the intention towards entrepreneurship among graduates. The study attempted to contribute by estimating the impact of EE (formal as well as informal) on the inclination of the graduates to select entrepreneurship as a career choice. The sample comprised of graduates from the University Utara Malaysia numbering 2300 students. The authors employed self-administered questionnaires to collect data and the findings showed that graduates who attended EE, both formal and informal, possessed higher potential to become entrepreneurs (Matlay et al., 2015). Meanwhile, Potter (2008) stressed on the EE's function and its importance in improving the individuals' attitudes towards entrepreneurship at the tertiary stage of education. Hence, EE initiatives offered at the university level is deemed to be significant in maximizing the potential pool of entrepreneurs by

making the students aware of and inclined towards entrepreneurship as a career alternative (Potter, 2008).

Also, in a study conducted by Hattab (2014), the author examined the effect of EE on the entrepreneurial career intentions among university students towards initiating start-ups using Linen's model. The sample comprised of 376 students studying in a private Egyptian university from the faculties of business studies (171 students), engineering (156 students) and computer science (49 students). Her findings indicated that the percentage of students aspiring to pursue entrepreneurial careers throughout the three faculties is relatively high. Nevertheless, those that were disinterested were common among engineering students who never had EE (Hattab, 2014). Along a similar line of study, Sondari (2014) conducted a study to look into the EE role in entrepreneurial career intention and to propose a theoretical framework advocating the significance of EE. Generally, entrepreneurial career intention among students can be a solution to minimize the rate of unemployment in Indonesia. The findings revealed that students that had positive EE perceptions have a high tendency to have positive attitudes towards it, and to have an intention towards adopting an entrepreneurial career (Sondari, 2014).

Moreover, a comparative study was carried out by Giacomin et al. (2011) of EE among nations to determine and compare the effect of the EE program in every country. They found EE to differ between countries and that social values have to be considered in the development of EE programs (Giacomin et al., 2011). Meanwhile, Packham, Jones, Miller, Pickernell and Thomas (2010) comparative study examined the EE-entrepreneurial attitude among German, France, and Polish students. They found EE to have a positive relationship with the EC intentions of the students from

France and Poland but a negative relationship with the same of the male students from Germany (Packham, Jones, Miller, Pickernell, & Thomas, 2010).

Furthermore, Block et al. (2011) studied effect of EE on individual's entrepreneurial choice among individuals from Europe and USA. The study accounts for this indigeneity by using a contributory variables method and a dataset of more than 10,000 people from 27 European countries and the USA. The study reported strongly positive association between education & entrepreneurial choice. Block et al. (2011) emphasize that the higher the level of education, the greater the likelihood for entrepreneurial career choice. Similarly, Marina et al. (2013) studied the association between EE and entrepreneurial career among university students in Ukraine. The Survey used a sample of 189 students from three universities in the Ukraine and hierarchical multiple regressions were used to analyse the data. The study reported higher intensity of entrepreneurial mind-set among the students that participated in EE program and also EE was positively associated with higher intensity of entrepreneurial mind-set. Furthermore, Marina et al. (2013) reported that students participated in EE show higher desire for entrepreneurial career than the non-participated students. In addition, EE students were more concerned with a higher entrepreneurial mind-set and accrued more links to entrepreneurial alertness ability.

Furthermore, in other related studies, Engle et al. (2010) also sampled university students in their study of entrepreneurial intents among 12 countries after which their findings supported the TPB's (Ajzen, 1991) effective prediction of the entrepreneurial intention of students in every country (Engle et al., 2010). They recommended that significant TPB elements could vary among countries. Also, the attitude variable was examined by Pruett, Shinnar, Toney, Llopis and Fox (2009), particularly towards EE

in three countries. Their findings revealed that despite the commonalities of opinions among students concerning incentives and barriers to entrepreneurial career, they significantly differ in their perception of EE-entrepreneurial intention relationship (Pruett, Shinnar, Toney, Llopis, & Fox, 2009). Along the same line of study, Souitaris et al. (2007) used a sample of 250 science and engineering students from the universities of France and UK to examine the relationship between EE, entrepreneurial attitudes and entrepreneurial career. Their findings revealed that the students within the experimental group had greater level of entrepreneurial career following their participation in the EE program, while those in the control group remained the same (Souitaris et al., 2007).

In the context of higher education, its impact on the graduate career choice in the current times was investigated by Rae, Penaluna and Dhaliwal (2011), particularly the attitudes of the graduates towards such choice. The authors contended that all the students should develop an entrepreneurial mind-set, skills and experience as part of the course. They also stressed on the significance of the development of the students' creative thinking, confidence, social and communication skills. The findings revealed that the students' participation in the EE positively impacted their attitude towards entrepreneurial career. They also indicated that the study could be used by academia and the EE community in constructing effective study programs (Rae et al., 2011).

Also, related to the topic, Ammal and Mathi (2014) looked into the effect of innovativeness and risk-taking on the choice of entrepreneurial career, with the aim of stimulating a policy debate on the potential advantages of entrepreneurship among students as a career alternative, the issues involved, as well as the measures and strategies to be laid down to reinforce it. The respondents had an average age of 20

years and most of them were male students – specifically there were 87 male students and 53 female students. The authors found a positive significant relationship between students' innovativeness and their attitudes towards entrepreneurship as a career choice, and risk-taking (Ammal & Mathi, 2014).

Meanwhile, the training-entrepreneurial competencies and entrepreneurial intention relationship was examined by Sanchez (2011) using a significant number of sample comprising 864 Spanish university students. The author aimed to support the EE-entrepreneurial career intentions, particularly through pre-and post-test assessment. He found that students' participation in free elective EE program significantly influenced their intentions towards entrepreneurial career (Sánchez, 2011). A similar finding was found by Abdulai (2015) who examined the EE influence on the individual's cognitive process of entrepreneurial career. The author made use of a sample numbering 429 respondents and surveyed them with the help of pre-test differences between the control and experiment group in a partial experimental study. His results showed that EE positively influences students' perception of self-employment and hence entrepreneurial career intentions (Abdulai, 2015).

Moreover, in Jones et al. (2011) study, they looked into the entrepreneurial attitudes and motivations of students in Poland towards EE. They drew the samples from Business and Finance undergraduate programs randomly, and collected semi-structured data from them to examine entrepreneurial attitudes, motivations and best practices. The study revealed that EE can positively support the attitudes of the participants towards entrepreneurial career choice in Poland, as an emerging nation (Jones et al., 2011). In the case of Ukraine, Solesvik (2013) delved into the entrepreneurial motivations-entrepreneurship attitude relationship. Data gathered from

321 students from three Ukrainian universities was analysed and the findings revealed that entrepreneurial motivations significantly and positively affected entrepreneurship attitudes (Solesvik, 2013). In regards to this, independence, autonomy, recognition of opportunities, family security, self-fulfilment, growth, financial gain are factors that boost entrepreneurship participation of individuals (Chu, Benzing, & McGee, 2007).

Along the same line of study, highly entrepreneurial individuals have a greater tendency to become entrepreneurs (Shane, Locke, & Collins, 2003). Collins, Hanges and Locke's (2004) meta-analysis of 41 articles showed that entrepreneurial motivations have a significant and positively relationship with entrepreneurial career choice (Collins, Hanges, & Locke, 2004). Added to the above studies, Molaei, Zali, Mobaraki and Farsi (2014) investigated the relationship between the variables of EE, entrepreneurial idea and entrepreneurial career intention. Data was collected from students enrolled in Behavioural Science and Engineering at the University of Teheran and was analysed with the help of structural equation modelling (SEM). According to the obtained findings, the entrepreneurial career among students is significantly affected by the amount of their entrepreneurial ideas. Additionally, the study findings underlined that such ideas is the top significant factor that is possessed by future entrepreneurs (Molaei et al., 2014).

On the basis of the theory of career choice proposed by Kristof-Brown, Zimmerman and Johnson (2005), entrepreneurial career option calls for a significant level of motivation and competencies to take part in entrepreneurial activities. The theory also stresses that individuals often selected occupations that are aligned with the personality, values, needs and interests (Kristof-Brown, Zimmerman, & Johnson, 2005). In this background, individuals select entrepreneurship when they perceive that

their competencies and the occupation match (R. A. Baron, 2012). With regards to the entrepreneurial career choice antecedents, Brice and Nelson (2008) contended that the perceptions of individuals concerning the rewards of an entrepreneurial career influence their intentions (Brice Jr & Nelson, 2008). This indicates that despite the important role of both vocation and independence on entrepreneurship choice (Costa, Caetano, & Santos, 2016), the financial reward and self-fulfilment are still the primary factors in this regard as evidenced by (Kerr & Armstrong-Stassen, 2011; Meher & Sahoo, 2008; Schwartz & Malach-Pines, 2007). This reveals that entrepreneurship is a part of one's career path that is significantly connected to the self-perception of the individuals of the competencies they possess (Higgins, Smith, & Mirza, 2013; Jain & Ali, 2013).

In addition, Malebana (2016) looked into the association between social capital and entrepreneurial career intention with the theory of planned behaviour (TPB) as the underpinning theory. The study adopted a cross-sectional survey on 329 final year commerce students at the Limpopo province, located in a rural area. The author found a significant relationship between social capital, entrepreneurial career intention and attitudes towards an entrepreneurship career (Malebana, 2016).

Along a similar line of findings Buttar (2015) focused on the relationship between social capital and entrepreneurial career intention by using 636 Turkish and Pakistani undergraduate business students. A positive relationship was found between social capital, perceived attractiveness of entrepreneurship as a career and perceived capability for start-ups (Buttar, 2015). Moreover, in Malebana's (2016) study, social capital was found to improve perceived behavioural control as it mitigates the influence of personal deficiencies and external barriers preventing successful

behaviour performance and it was also found to produce positive entrepreneurial attitude (Malebana, 2016).

Aside from the above studies, other prior studies found social capital to play a role in individual's entrepreneurial career choice, particularly when exposed to entrepreneurial role models that inspire and teach and may affect the generation of intention towards entrepreneurial career (De Carolis, Litzky, & Eddleston, 2009; Dohse & Walter, 2012; Klyver & Schøtt, 2008; Kwon & Adler, 2014). More importantly, entrepreneurial role models contribute to the generation of a nascent entrepreneur (Arenius & Minniti, 2005), with nascent entrepreneurs referring to individuals that work towards organizing and gathering resources for the creation of new businesses (Arenius & Minniti, 2005; Slavica Singer, Amorós, & Arreola, 2015).

New venture creation and its development calls for entrepreneurs to effectively adopt different behaviour with the support of strong and weak connections (Davidsson & Honig, 2003; Klyver, 2007; Newbert, Tornikoski, & Quigley, 2013). This necessitates entrepreneurs and potential ones to possess social competence to create relationships that will assist in accessing resources present in their social networks create successful businesses (Baron & Markman, 2003; Baron & Tang, 2008). In other words, the development and maintenance of relationships with heterogeneous connections contributes to the acquisition of knowledge (Puhakka, 2002), creates access to ample resources, promotes information and opportunities quality (Bhagavatula, Elfring, Van Tilburg, & Van De Bunt, 2010; Newbert et al., 2013), enhances the perceived entrepreneurial career attractiveness and new business creation capability (Xiao & Fan, 2014).

In a related study carried out by Sharma (2014), the author evaluated the effect of students' individual social capital on their entrepreneurial career intention in Uttarakhand, India, using a sample numbering 530 students in their final year of higher educational institutions in different courses. The author noted significant impact of social capital of students on their intention towards an entrepreneurial career. He also noted that those with extensive social capital network had greater intentions towards adopting entrepreneurship as a career (Sharma, 2014). Similar results were found by Abebe (2012) who examined the effect of social predictor (i.e., perceived social support) of entrepreneurial career intentions using a sample of 186 university students in south U.S. According to his results, the students' career intention is significant affected by the social support they receive (Abebe, 2012).

Moreover, in Karimi et al.'s (2013) study, they found entrepreneurial role models to be a source of entrepreneurship learning and inspiration of students to be successful business entrepreneurs. Their findings also showed that the determination of role models positively correlated with the attitudes of the students towards entrepreneurial career (Karimi et al., 2013). Similarly, Contin-Pilart and Larraza-Kintana (2015) conducted an examination of the effect of role models on the decision of the individual to be a nascent entrepreneur. On the basis of the findings, a positive relationship exists between role models and the decision of individuals to become nascent entrepreneur (Contín-Pilart & Larraza-Kintana, 2015).

Also, Herath (2014) proposed a theoretical framework that included individual level determinants of successful entrepreneurial career, with some of the major drivers being social, human and psychological capitals. More specifically, psychological capital consists of the skills and capabilities of the entrepreneurs that are required in

running the operations of business. The most extensively employed psychological factors include risk taking, need for achievement, innovativeness and openness (Herath, 2014). His findings showed social capital to positively correlate to successful entrepreneurial career.

Meanwhile, Zikic and Ezzedeen (2015) provided a clear understanding of the way entrepreneurial career are formed by three types of career capital in a simultaneous manner; they are motivations (know-why), knowledge (know-how), and relationships (know-who) (Inkson & Arthur, 2001). The authors demonstrated the interrelations among the three capital forms as a crucial way to shed light on entrepreneurial career, the importance of an integrated point of view of entrepreneurship education and career counselling. The findings supported the interrelations of the three capital forms viewed from the perspective of individual entrepreneurial career. The study contributed to supporting the complementary nature of the three capital forms. In other words, understanding entrepreneurial careers call for the examination of all the forms (Zikic & Ezzedeen, 2015). On the basis of the above discussion, the study proposes to test the following hypothesis and sub-hypotheses;

H_1: There is a positive and statistically significant relationship between entrepreneurship education and entrepreneurial career option.

More specifically;

H_{1a}: There is a positive and statistically significant relationship between know-what and entrepreneurial career option.

H_{1b}: There is a positive and statistically significant relationship between know-why and entrepreneurial career option.

H_{1c}: There is a positive and statistically significant relationship between know-who and entrepreneurial career option.

H_{1d}: There is a positive and statistically significant relationship between know-how and entrepreneurial career option.

2.7 Entrepreneurship Education and Entrepreneurial Opportunity Recognition

According to Hajizadeh and Zali (2016), prior knowledge and entrepreneurial learning directly and positively affect entrepreneurial opportunity recognition. In their study, they examined the role of prior knowledge and cognitive characteristics of entrepreneurial learning on the recognition of entrepreneurial opportunity (Hajizadeh & Zali, 2016). Additionally, Lim and Xavier (2015) looked into the effect of prior knowledge and education on opportunity recognition and found that higher levels of both are related with higher recognition of opportunities (Lim & Xavier, 2015).

Most entrepreneurship course offered in the university laid emphasis on exploiting opportunities and training of technical skills when it comes to identified opportunities as evidenced in Neck and Greene's (2011) study. Hence, opportunity identifications or the development for such skills is paid little to no attention. Therefore, it is important to develop entrepreneurial education programs to develop exploitation capabilities as well as to develop entrepreneurial opportunities identification skills (Neck & Greene, 2011).

The review of literature shows that the development of opportunity recognition is a major component of the process of entrepreneurship, and as such, entrepreneurship education has to work towards enhancing this capability (Liñán, Rodríguez-Cohard, et al., 2011; Lumpkin, Hills, and Shrader, 2004). Monoz, Mosey and Binks (2011)

also highlighted that entrepreneurship education assists in improving the capabilities of students to identify opportunities (Mosey & Binks, 2011), while Zhang et al. (2014) stated that entrepreneurship education facilitates the capabilities to identify opportunities among individuals (Zhang et al., 2014). Also, Martin, McNally and Kay (2013) showed that entrepreneurship education can contribute to the students' entrepreneurial knowledge (Martin, McNally, & Kay, 2013), and Shepherd and De Tienne (2005) indicated a positive entrepreneurial knowledge-entrepreneurial opportunities identification relationship (Shepherd & DeTienne, 2005). In relation to the above studies, Mejri and Umemoto (2010) revealed that entrepreneurial knowledge affected opportunity recognition (Mejri & Umemoto, 2010).

According to Malebana (2016), educators of entrepreneurship training could enhance the students learning by inviting guest speakers to enlighten them in class, and through educational tasks providing the students with the opportunities to deal with real life entrepreneurs (Malebana, 2016). Students should be equipped with the required business skills and the competence to develop good and effective interaction with others. Students' social competence can help them in laying down their social networks that they could use to access resources and social support that are both important for identifying opportunities (Malebana, 2016). Other studies like Nikraftar, Hosseini and Laesser (2016) explained that the recognition of the importance of networks by creating relationships with others that hold information and are able to share it can work towards stimulating creative thinking of opportunities (Nikraftar, Hosseini, & Laesser, 2016). Also, in Lim and Xavier's (2015) study, the effect of social network on opportunity recognition was examined and the findings showed a significant relationship between the two (Lim & Xavier, 2015). This is supported by Hayek (1945) who related that information is a major component in identifying

entrepreneurial opportunity and as such, it may only be possible if seeker knows how to obtain the information (Hayek, 1945). According to the social capital theory, as the major information source, social capital impacts the potential to find information and the characteristics and quality of such information, which in turn, impacts the attributes of the opportunity (Wei Wu, Li, & Gustafsson, 2012).

Added to this, Nikraftar et al.'s (2016) study examined the impact of social networks on the recognition of entrepreneurial opportunity and found a significant effect of the former to the latter (Nikraftar et al., 2016). Along a similar line of study, Esfandabadi et al. (2016) looked into the impact of social capital on recognition of entrepreneurial opportunity and found social network to have a direct and linear connection with the latter (Esfandabadi, Farsi, Mobaraki, & Esfandabadi, 2016). Meanwhile, Tang (2010) focused on the role of individual characteristics in opportunity recognition the case of China and revealed that prior knowledge, experience, social capital and social skills of the entrepreneur positively related with opportunity recognition (Tang, 2010).

More importantly, in past literature, prior knowledge is considered as a cognitive resource and when linked with other factors (e.g., networks), it boosts the recognition of opportunities among individuals owing to the knowledge wealth and experience involved (Tang, 2010). It is generally considered that students are faced with challenges when it comes to the accumulation and configuration of required knowledge assets that is required to develop their mind-set in recognizing opportunities (Solesvik , Westhead , Matlay , & Parsyak 2013) and such assets include human capital, social capital and network of contacts. In a related study, the same relationship was focused on by Mohebi and Rabiee (2014) involving a population comprising 60 directors of all companies working in Technology Park.

The questionnaire was used as the tool to obtain data, and was distributed through the census method. The findings showed that social capital has a positive impact on the recognition of opportunities (Mohebi & Rabiee, 2014).

In relation to the above studies, Karimi, Biemans, Lans, Aazami and Mulder (2016) investigated the creativity-opportunity identification relationship to test the students' ability to produce new business opportunities. The students were participants in a recreated entrepreneurship course with specific developed creativity tasks. Sixty-eight undergraduate students of agricultural sciences at the University of Iran participated. According to the pre-and post-test comparisons, students that followed the course had greater creativity levels compared to those who did not. The results showed that the course significantly affected the abilities of the students in the experiment group to identify opportunities and to produce higher innovative business ideas compared to the students in the control group, within which no significant changes were noted in the generation of business ideas (Karimi, Biemans, Lans, Aazami, & Mulder, 2016).

Moreover, a systematic literature review was carried out by George, Parida, Lahti and Wincent (2016) concerning the topic of entrepreneurial opportunity to shed light on the development of the opportunity recognition and underline the significant factors that influence it. One hundred and eighty articles were analysed and the study classified the extant contributions of the studies into six influential factors including social capital and cognition/personality traits (George, Parida, Lahti, & Wincent, 2016). Research of this calibre has primarily concentrated on specific individual characteristics facilitating the creation of new firms. The top attributes in the field of psychology are creativity, the inclination to risk assumption, achievement need, independence need and locus of control (Ardichvili et al., 2003; Baron, 2006; Garg,

Matshediso, & Garg, 2011; Nicolaou, Shane, Cherkas, & Spector, 2009; Tominc & Rebernik, 2007).

Meanwhile, Gielnik, Frese, Graf and Kampschulte (2012) carried out an examination of the effect of creativity on the process of opportunity identification through an interactionist approach. The aim was to shed light on the interplay of creativity and the various information within the process, and the findings showed that positive effect of creativity on opportunity identification (Gielnik, Frese, Graf, & Kampschulte, 2012). Other studies in the entrepreneurship literature like (Corbett, 2005; Dimov, 2007a; Lumpkin & Lichtenstein, 2005), considered opportunity identification as a domain-specific creativity type that is according to (Gielnik et al., 2012), dependent on divergent thinking. Added to this, among the perspectives for how entrepreneurs can enhance their thinking and inner power is encapsulated within a concept referred to as design thinking that is a methodology to recognize opportunity and enhance entrepreneurial skills and the recognition of new appropriate ideas (Hnátek, 2015).

Added to this, the Department for Business, Innovation & Skills (2015) in Great Britain stated that entrepreneurship skills are related with competence in identifying opportunities or creating them and the ability to leverage such opportunities along with the various skills related to the development and implementation of business plans to allow their realization (Great Britain. Department for Business, Innovation, & Skills, 2015). Scholars of entrepreneurship are of the consensus that creativity is related to entrepreneurship as it functions to promote the identification new opportunities e.g. (Shane 2003). This is supported by the findings of De Tienne and Chandler (2004) that revealed the positive relationship of creativity on opportunity

identification (DeTienne & Chandler, 2004), However, Hansen, Lumpkin and Hills (2011) only found partial support for the hypothesis that proposed creativity to be the underlying opportunity identification (Hansen, Lumpkin, & Hills, 2011).

Also, in a more current study conducted by Yitshaki and Kropp (2016), the interrelations between motivation and opportunity recognition, and the way different motivations affect opportunity recognition were investigated. The findings revealed a relationship between the two (Yitshaki & Kropp, 2016). Despite the difference in form, opportunity recognition and exploitation are significant to commercial as well as social entrepreneurs (SEs) as both lay down new ventures, develop and deploy innovative programs and provide new services (Yitshaki & Kropp, 2016).

Studies dedicated to commercial entrepreneurship stressed on the relationship of entrepreneurial motivations and the identification and exploitation of new opportunities (Shane & Venkataraman, 2000). More specifically, Carsrud and Brannback (2011) indicated the critical role of motivations in the transformation of entrepreneurial intentions into action, with the inclusion of opportunities identification (Carsrud & Brännback, 2011). Similarly, in Corner and Ho's (2010) study, opportunity recognition in social ventures was found to be based on an inspiration that develops via an overarching pattern where the opportunity is created and develops as time passes (Corner & Ho, 2010).

Additionally, Holland and Garrett (2013) found that the relationship between expectancy level and value, and pursuit to entrepreneurial opportunity positive and significant. More specifically, the study found that a greater relative expectancy level of obtaining the value of financial returns and non-financial advantages from a new business opportunity positively relates to the potential to pursue such opportunity. The

sample comprised of 135 entrepreneurs working in high-technology industries from a U.S. western state (Holland & Garrett, 2013). This is supported by the motivation theory as explained by (Deci, 1972; Hunt, 1965; Ryan & Deci, 2000). The theory posits that people have a tendency to behave when such behaviour results in rewards in the form of benefits, worth/value, needs or advantages) and they steer clear of behaviour that results in punishment or those that are disadvantageous. On the basis of the above discussion, the study proposes to test the following hypothesis and sub-hypotheses;

H_2: There is a positive and statistically significant relationship between entrepreneurship education and entrepreneurial opportunity recognition.

More specifically;

H_{2a}: There is a positive and statistically significant relationship between know-what and entrepreneurial opportunity recognition.

H_{2b}: There is a positive and statistically significant relationship between know-why and entrepreneurial opportunity recognition.

H_{2c}: There is a positive and statistically significant relationship between know-who and entrepreneurial opportunity recognition.

H_{2d}: There is a positive and statistically significant relationship between know-how and entrepreneurial opportunity recognition.

2.8 Entrepreneurial Opportunity Recognition and Entrepreneurial Career Option

Several studies in literature made an attempt to confirm the relationship between EOR and ECO. To begin with, Herath (2014) determined the impact of opportunity recognition on entrepreneurial career success, with particular focus on the extent of opportunity recognition in predicting entrepreneurial career option. The findings revealed the positive relationship between opportunity recognition and entrepreneurial career success (Herath, 2014). In relation to this, other studies found identification and selection of appropriate opportunities for new businesses to be the top crucial abilities of entrepreneurial success e.g. (Ardichvili et al., 2003; Sambasivan, Abdul, & Yusop, 2009; Shepherd & DeTienne, 2005). Hence, the skill of opportunity recognition is a must for an entrepreneur that is desirous of creating ventures that lasts in the long-run (Wasdani & Mathew, 2014).

In the study by Gielnik et al. (2015), the relationship between entrepreneurship training, business opportunity identification and business start-ups were investigated on a sample comprising 203 students in the final year of their undergraduate degree. The students were randomly selected for the training group and control group from the Makerere University and Uganda Christian University. Based on the results, business opportunity identification positively impacts new business start-ups (Gielnik et al., 2015). Also, Ucbasaran et al. (2008) explained that the identification of more opportunities are linked with the identification of innovative opportunity that the entrepreneurs are convinced to be sufficient to start a business (Ucbasaran et al., 2008). This finding is supported by Hou's (2008) finding that support the role of

individual having strong opportunity identification skills in developing entrepreneurial behaviour and new venture start-up (Hou, 2008).

The relationship between entrepreneurial opportunity recognition and individual-level innovation performance was also studied by Wang et al. (2013) through the adoption of R&D personnel in high technology firms as samples. The study collected data from 268 senior R&D project team members with the help of questionnaires and the results showed that entrepreneurial opportunity recognition is important to individual-level innovation performance (Wang et al., 2013). Also, entrepreneurship education at the level of university is a pre-requisite to the building of human capital to bring about entrepreneurial mind-sets among students (Commission, 2006; Hannon 2007). According to Kirzner (1999), such entrepreneurial mind-sets comprise of opportunity identification (Kirzner, 1999).

Furthermore, Geissler and Zanger's (2010) study involved a sample of 271 German universities students and found a significant relationship between individual opportunity recognition and their intention towards self-employment behaviour. The result indicated that individual's ability to recognize opportunities is significantly linked to his/her entrepreneurial intentions. The result also showed that an individual's opportunity recognition skills may be enhanced by skills and techniques (Geissler & Zanger, 2010). In a related study, De Tienne and Chandler (2004) showed that entrepreneurship education is a vehicle to learn opportunity identification that potential entrepreneurs can avail of to develop their skills and capabilities to identify opportunities (DeTienne & Chandler, 2004). On the basis of the above discussion, the present study proposes the following hypothesis for testing;

H_3: There is a positive and statistically significant relationship between entrepreneurial opportunity recognition and entrepreneurial career option.

2.9 Entrepreneurial Opportunity Recognition as a Mediator

Studies dedicated to examining the mediating effect of EOR established its mediating role in the relationship among various variables. To begin with, Niammuad et al. (2014) aimed to present the mediating effects of opportunity recognition on the relationship between incubation resources and entrepreneurial innovation and to investigate the interconnections between opportunity recognition and entrepreneurial product innovation. Data was gathered from 389 incubated software Thai start-ups, upon which Partial Least Squares –Structural Equation Modelling (PLS-SEM) was applied to analyse it. A consistent impact of opportunity recognition was noted on the incubation resources and human capital variables, and as a significant driver in improving entrepreneurial potential to introduce new product/services (Niammuad, Napompech, & Suwanmaneepong, 2014).

In a study of the same calibre, Wei and Hisrich (2016) looked into the way error orientation and opportunity identification behaviour are linked to entrepreneurial decision making among SMEs in China, and the way perceptions of opportunity identification mediate the impacts of error orientation on decision-making. The study used 187 SME participants to obtain data from and the results showed that perceived error orientation and opportunity identification were linked and they explained the variance in the variable of entrepreneurial decision making. The results also indicated that opportunity identification (fully/partially) mediated the error orientation-decision making relationship. In other words, when opportunity identification beliefs are elevated and when the entrepreneur understanding of opportunity identification is

enhanced for effective firm performance, this can assist in facilitating decision making. In other words, awareness of error orientation can lend a hand to developing significant perceptions of entrepreneurial opportunity identification and could result in optimum entrepreneurial decision making (Wei & Hisrich, 2016).

The role of personal qualities, management skills and opportunity recognition skills among entrepreneurs was examined by Sambasivan and Yusop (2009) in light of their influence on the performance of business. The research combined personal qualities and management skills into one construct referred to as qualities-skills. It proceeded to examine the role of opportunity recognition skills and its mediating role in qualities-skill and three venture performance measures. It also focused on particular opportunity recognition skills components that had a mediating role (Sambasivan & Yusop, 2009). The study context was Malaysia, considered as a fast-developing country located in South-East Asia and the questionnaire was the data collection tool of choice. The sample numbering 1275 SMEs were distributed the questionnaire and the results revealed that opportunity recognition skills function as a mediating variable, opportunity recognition skills impacted venture performance, alertness mediated the personal qualities-venture performance relationship and lastly, alertness and prior knowledge had a mediating role on the management skills-venture performance relationship. Sambasivan and Yusop (2009) considered sales volume, sales growth and profit stability in the study as venture performance measures (Sambasivan et al., 2009).

Furthermore, Dahalan, Jaafar and Rosdi (2015) concentrated on the relationship between attitude towards money and towards start-up and entrepreneurial intention. The study shed light on the mediating role of entrepreneurial opportunity recognition

in the attitude-entrepreneurial intention relationship. The research adopted the quantitative data collection method, where 500 local populations were distributed questionnaires based on districts and village locations. The study findings revealed that attitude towards money and towards start-ups affected entrepreneurial intention, and that opportunity recognition mediated the relationship between attitude towards start-up and entrepreneurial intention (Dahalan, Jaafar, & Rosdi, 2015).

Aside from the above studies, Camelo-Ordaz et al. (2016) studied the mediating role of perceptual factors on the gender-entrepreneurial career intention relationship of non-entrepreneurs and entrepreneurs. The sample was drawn from the Global Entrepreneurship Monitor Project comprising of 21,697 Spanish non-entrepreneurs and 2899 Spanish entrepreneurs. The study results revealed that perceptual factors had a full mediating effect on the relationship between gender and entrepreneurial career intention of non-entrepreneurs, particularly when it came to three perception factors, of which opportunity recognition is one of them. The study revealed that the gender-entrepreneurial intention relationship is completely mediated by the ability to recognize opportunities (Camelo-Ordaz, Diánez-González, & Ruiz-Navarro, 2016).

The same mediating effect of opportunity recognition was examined by Razak, Ekpe and Mat (2011) on credit and women entrepreneur performance. The study used a survey with structured questions and in-depth interview to obtain responses from the sample, supported by secondary data obtained from the microfinance institutions. Descriptive statistics was used to analyse data (Razak, Ekpe, & Mat, 2011).

More importantly, according to Oosterbeek et al. (2010), the entrepreneurial education program primarily assumes that the entrepreneurial skill and competencies is teachable (Oosterbeek et al., 2010), an assumption that is consistent with the

viewpoint proposed by Drucker (2002) about entrepreneurship. He described it as a discipline that can be learned. Similarly, Rushing (1990) stated that entrepreneurial education can enhance skills required for business start-ups. In particular, the determination of opportunities by an entrepreneur depends on the information he/she possesses (Maina, 2011) and such information can be learned via education programs created and developed to impart skills and knowledge concerning the aim behind entrepreneurship (Maina, 2011).

Literature on entrepreneurship education states that identification of opportunities is teachable and should be done so and made the central topic in programs aiming to train future entrepreneurs and boost graduates to lean towards opting for some form of entrepreneurship as a career alternative e.g. (Saks & Gaglio, 2002; Sardeshmukh & Smith-Nelson, 2011). Moreover, in DeTienne and Chandler's (2004) study, entrepreneurship classroom is described as a suitable place to foster the required skills to improve the competency of opportunity identification. Boosting such recognition can assist in motivating potential entrepreneurs to behave based on their ideas and take up entrepreneurial activities (DeTienne & Chandler, 2004).

In relation to the above studies, Fiet (1996; 2001) reached to the conclusion that information processing ability (the key for entrepreneurial alertness) is the precursor of opportunity recognition and competencies that is learnable and it can be enhanced among potential entrepreneurs (Fiet, 1996, 2001b; Kirzner, 1999). Valliere (2011) also indicated that opportunity identification skills can be taught to aspiring entrepreneurs via the provision of enterprise education (Valliere, 2011). Hence, according to Chang et al. (2013), entrepreneurial education programs are important to improve recognition of entrepreneurial opportunity (Chang et al., 2013).

Majority of the programs primarily aim to boost graduates' inclination towards some entrepreneurship form as a career alternative. However, not all of them work this way as some may have the opposite effect by minimizing entrepreneurial intentions and motivation among students (Kirby, 2004; Oosterbeek et al., 2010). According to a current review of entrepreneurship course materials, a significant mismatch exists between course materials and activities related with teaching entrepreneurship and what is experienced by the entrepreneurs in their actual creation of new businesses (Edelman, Manolova, & Brush, 2008).

This is exemplified by the survey of Australian businesses in 2007 that described the experience of new businesses exist rate (40%) over the initial years of business (A. B. o. Statistics, 2007). Such an opportunity gap does exist that requires filling by entrepreneurship education through the development of the abilities of recognition and opportunities among students and aspiring entrepreneurs. These findings show that pedagogical material has to be reviewed as well as the entrepreneurship approach and entrepreneurial career education.

In other words, entrepreneurship pedagogy that aims at boosting entrepreneurial careers have to concentrate on improving the entrepreneurial perspective and cognitive processes like opportunity recognition among students. The same recommendation came from Fayolle and Klandt (2006) who highlighted the change in the paradigm upon which entrepreneurship education is based on and stressed that educators should exert efforts on changing the culture, mind-set, behaviour and situations related to the process of entrepreneurship, including opportunity recognition (Fayolle & Klandt, 2006; Gaglio, 1997; Gaglio & Katz, 2001).

On the basis of traditional career focused studies, an individual's relationship is important with the employing organization (Sullivan & Baruch, 2009) (p. 1542) and this is based on a linear and single firm perspective. However, the work nature (e.g., changing relationships of employment, downsizing, threats of lay-offs and technology advancements) have urged the requirement for a more general point of view of understanding careers. The mitigated job security and forced entrepreneurship options (Sullivan & Baruch, 2009) have maximized the interest in a boundary-less career (Inkson, Furbish, & Parker, 2002), and careers that are self-managed and opportunity-centered (Tams & Arthur, 2010). The current changes and the academic environment reflect such changes.

The premise of opportunity-centered careers is aligned with the current developments in career theory discussed by (Sullivan & Baruch, 2009; Tams & Arthur, 2010). According to Baumol (2004), entrepreneurs are referred to generally as innovation promoters throughout various contexts and as such (Baumol, 2004), educating for entrepreneurial careers calls for the promotion of an entrepreneurial-centered mindset (McGrath & MacMillan, 2000). Such a mindset is able to acknowledge and determine opportunities and to identify the right opportunities for the self, and it is an important perspective for boundary-less careers (Bridgstock, 2005).

It is according to the above discussion that Smith-Nelson, Sardeshmukh, Sebora and Reiter-Palmon (2011) recommended that educating for entrepreneurial careers need a distinct approach that would encourage students' learning of identifying the presence of opportunities in general, and in assisting in their ability to develop opportunity recognition. Such ability can assist individuals in career management (Smith-Nelson, Sardeshmukh, Sebora, & Reiter-Palmon, 2011).

In theoretical studies, the study will focus on opportunity recognition as a significant predictor of entrepreneurial bent. The variable has long been recognized as a major step in the process of entrepreneurship (Ozgen & Baron, 2007). Additionally, the entrepreneurial opportunities development process, wherein basic concepts are developed continuously, proactive process up until the business is formed (Shane & Venkataraman, 2000), and the theoretical possibility can be proposed to have positive relationships as evidenced by past literature dedicated to entrepreneurship education and entrepreneurial career option.

In the present study, entrepreneurial opportunity recognition (EOR) is a mediating variable that affects the relationship between EE and ECO. Accordingly, the following hypothesis is brought forwarded to be tested;

H_4: Entrepreneurial opportunity recognition mediates the relationship between entrepreneurship education and entrepreneurial career option.

More specifically;

H_{4a}: Entrepreneurial opportunity recognition mediates the relationship between know-what and entrepreneurial career option.

H_{4b}: Entrepreneurial opportunity recognition mediates the relationship between know-why and entrepreneurial career option.

H_{4c}: Entrepreneurial opportunity recognition mediates the relationship between know-who and entrepreneurial career option.

H_{4d}: Entrepreneurial opportunity recognition mediates the relationship between know-how and entrepreneurial career option.

2.10 Underpinning Theory

In this section of the chapter, the role of entrepreneurship education, entrepreneurial opportunity recognition and entrepreneurial career option is examined in light of the human capital theory that is the underpinning theory of the study.

Prior studies including Douglas and Shepherd (2002), Eccles and Wigfield (2002) and Sheu et al. (2010) supported the role of several factors in determining the career choice of individuals involving the decision of whether or not the choice is made towards self-employment or employed by firms (Douglas & Shepherd, 2002; Eccles & Wigfield, 2002; Sheu et al., 2010). Nevertheless, career choice is viewed as cognitive process that is formed by beliefs, attitudes, past experiences as evidenced by studies that confirmed entrepreneurial career choice pattern following e.g. (Bandura, 1986; Katz, 1991; Liñán, 2004; Shaver & Scott, 1991).

According to the human capital theory, human capital can be enhanced via effective and quality education and training. Theories of this calibre motivate the investment of the nation on using the assets of human capital by providing education, training and development (Olaniyan & Okemakinde, 2008). The development of human capital through the provision of education is a significant driver of economic development and the development of the whole nation. In essence, the inclination towards entrepreneurial activities pursuit as a career alternative is related to incentives and motivations that can both be obtained through EE participation, whereas past entrepreneurial experience boost the individuals tendency towards self-employment (McMullen & Shepherd, 2006).

The human capital theory was initially proposed by Becker (1964) for the assessment of the effect of human capital investment on income distribution of employees. The

author suggested that individual skills and knowledge are the theoretical result of the human capital investment like education and work experience (Becker, 1964). Consequently, a significant portion of research studies have employed education and work experience for the assessment of human capital construct and for its substitute over human capital of entrepreneurs (Reuber & Fischer, 1994).

The human capital theory attracted increasing interest among the circles of researchers in the past forty years and as a consequence various studies have been focused on direct relationship between entrepreneurship and human capital. This is exemplified by studies conducted by Chandler and Hanks (1998), Davidsson and Honig (2003), Martin et al. (2013), and Unger, Rauch, Frese and Rosenbusch (2011). Researchers have always been inclined to identify the link between human capital and education, skills, work experience and knowledge of entrepreneurial opportunity determination and exploitation, attitude, career intention and success. For instance, Unger et al. (2011) conducted a meta-analysis of 3-decade worth of research dedicated to human capital and entrepreneurship and indicated positive relationship between the two (Unger, Rauch, Frese, & Rosenbusch, 2011). Several studies dedicated to the same relationship have reported that high degrees of human capital significantly impact the creation of new venture as the individual creating venture possesses skills to identify and evaluate opportunities of business (Haynie, Shepherd, & McMullen, 2009; Shepherd & DeTienne, 2005).

Moreover, the theory of human capital posits that an individual's knowledge and skills will work towards enhancing his/her cognitive abilities and this could result in a highly efficient and productive potential activity (Becker, 1964). Hence, individuals with high human capital are in a more suitable position to discover and leverage

opportunities. Entrepreneurship research brought forward several arguments advocating human capital's effect on successful entrepreneurship, with some of the major arguments provided in this section.

First, according to Shane and Venkataraman (2000), the individual's entrepreneurial aptitude to identify and exploit opportunities with profile potential can be improved by human capital (Shane & Venkataraman, 2000). Past acquired knowledge via education and experience can work towards improving the entrepreneurial opportunity of the individual (Westhead, Ucbasaran, & Wright, 2005). This makes the individual prepared for the discovery of distinct opportunities that others have overlooked (Kirzner, 1979) or that are hidden to them (Shane, 2000; Venkataraman, 1997). Another effect of human capital is on the approach of the individual towards exploiting opportunities of entrepreneurship (Shane, 2000).

Second, literature sheds light on the positive relationship between human capital and venture planning strategy that in turn, positively impacts successful venture (Frese et al., 2007). Third, human capital assists in acquiring invaluable resources such as physical resource and financial capital (Brush, Greene, & Hart, 2001). Lastly, human capital is deemed to be a pre-requisite to more learning and this facilitates the gathering and acquisition of skills and knowledge (Ackerman & Humphreys, 1990).

At this juncture, the question that arises pertains to the type of human capital that is needed by individuals to identify and exploit business opportunities and carry out entrepreneurial activities. Majority of the scholars are of the consensus that human capital for entrepreneurial career is more general than human capital for employment. According to Kirzner (1979), entrepreneurs are like generalists who own human capital with different applicability (Kirzner, 1979). Similarly, individuals who aspire

to have entrepreneurial careers have diverse skills and abilities and as such, are referred to as 'jack-of-all-trades' (Lazear, 2005).

Furthermore, the general human capital represented by education and work experience, and specific human capital that is entrepreneurship-linked represented by business ownership experience, technical capabilities and entrepreneurial skills are related with the capabilities of the entrepreneur in identifying business profitability, opportunities towards it and its pursuit (Ucbasaran et al., 2008). Hence, it is important for the individual to obtain general and specific human capital to be an entrepreneur. This may be realized through formal education, experience, entrepreneurship education, practical learning experience, informal education and training courses or a combination of some or all (Martin et al., 2013). In this regard, the individual inputs linked to his general human capital and specific human capital are expected to be related with the entrepreneurial activities output for the identification of business opportunities and career intention for the pursuit to be an entrepreneur (Ucbasaran et al., 2008). Additionally, entrepreneurship education and training initiatives are significantly related with the assets of human capital including entrepreneurship skills and knowledge, and they positively impact the career intention of an individual in becoming an entrepreneur.

2.11 Theoretical Framework

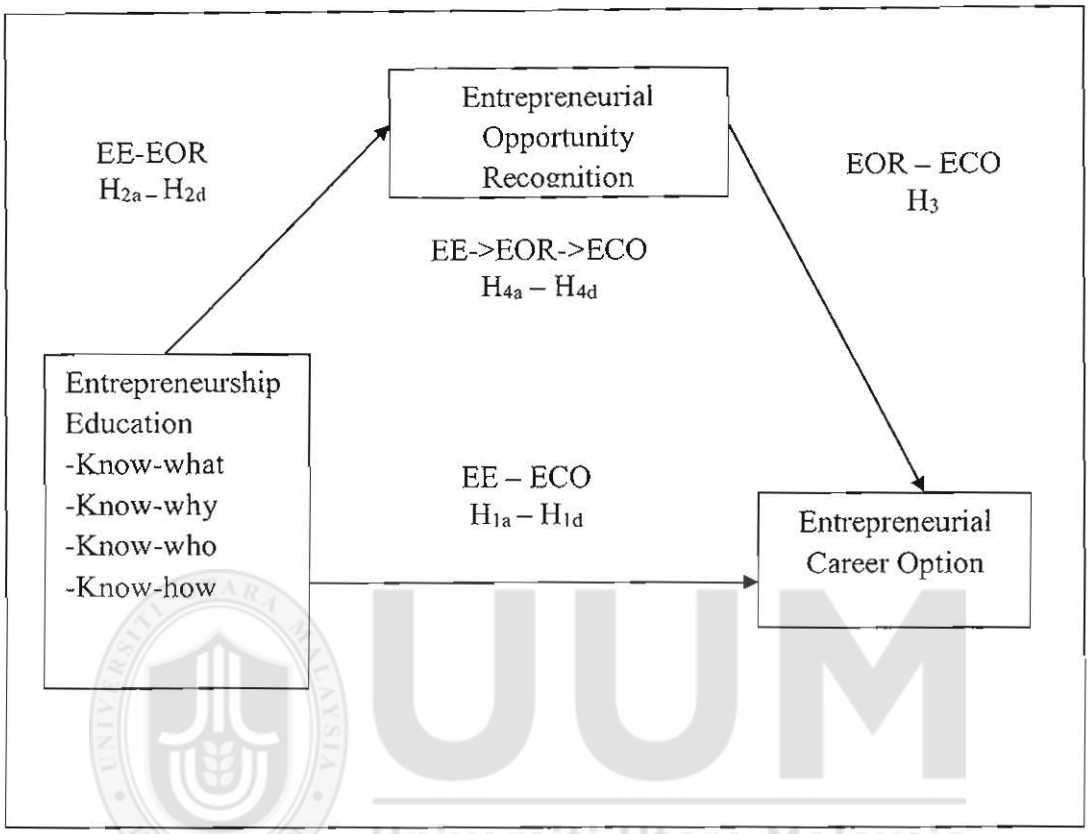

Figure 2.1
Theoretical Framework

Considering the gap in literature as reviewed in this study and the problem statement, the theoretical framework of the present study is proposed in Figure 2.1. The figure indicates three constructs connected to entrepreneurial career option as the dependent variable (DV) of the study. The independent variable (IV) is entrepreneurship education, whereas the mediating variable is entrepreneurial opportunity recognition.

2.12 Summary of the Chapter

The chapter two reviewed the past and existing related literature on entrepreneurial career option (ECO). The chapter also looked over and reviewed the empirical works on the other five variables of study, namely; know-what, know-why, know-who, know-how and entrepreneurial opportunity recognition. These variables were studied and discussed in order to offer a better clarification of the framework of study, and led to the formulation of hypotheses to answer the research questions. Theoretical underpinning such as human capital theory (HCT) was used with the possibility of establishing the relationships between the theories with the theoretical framework of the study. The research methodology employed in this study is discussed in the next chapter.

CHAPTER THREE

METHODOLOGY

3.1 Introduction

In this chapter, the research design employed to achieve the objectives of the study is described and presented. The chapter also contains the description of population, sample and sampling method adopted in the data collection procedure. The chapter discussed on the following related matters; operationalization, variables measurement, data collection method and methods of data analysis.

3.2 Research Design

The research design approach has its basis on the type of research in that it can be quantitative, qualitative or the combined approach, all of which vary according to the data nature. Specifically, the quantitative research design is characterized as systematic and scientific, primarily employed to identify the relationships and interaction between various study variables, with the application of different theories, models and hypotheses (Creswell, 2013b). A qualitative research requires data that has its basis on observations, sentences, words, symbols and photos, whereas a quantitative one has its basis on data containing numbers (Neuman, 2004). The combination of both is the mixed research method (Creswell, Plano Clark, Gutmann, & Hanson, 2003). This study employs the quantitative design based on several reasons.

First, according to Bryman (2012), the quantitative approach is objective and is built on positivist ontology (Bryman, 2012). It is suitable for the analysis of the relationship between groups and the understanding of the variables dependency, as well as the testing of the proposed study hypotheses (Johnson & Christensen, 2008). Because this study is an attempt to examine the mediating role of entrepreneurial opportunity recognition between the relationship of entrepreneurial education and entrepreneurial career option, the cross-sectional survey is appropriate to be used. Accordingly, the numerical data collection was conducted to determine the relationship between entrepreneurial education, opportunity recognition and entrepreneurial career option.

Moreover, quantitative research design is adopted to shed light and make sense of social interactions (Lichtman, 2012), whereas the qualitative one is subjective and it assumes the premise of interpretive and critical paradigms (Bryman, 2012). The latter approach is suitable for data collection and study reports that are conducted in-depth, and could sometimes involve the researcher's bias. As a consequence, the qualitative research is characterized as an approach that is exploratory as it identifies a concept/phenomenon, or issue, with the researchers in the dark about the significant variables to focus on (Creswell, 2013a). This approach is normally used when the viability of the quantitative approach is lacking (Walsham, 1995).

The above discussed differences between the two highlight the suitability of the quantitative approach to this study that primarily aims to study the variables' relationship. This is because a quantitative research refers to one that conducts queries

into social/human issues, on the basis of the examination of a theory comprising of variables, gauged with the help of numbers, and analysed through statistical methods to identify if the generalizations of the theory are accurate (Creswell, 2013b). Aside from the above reasons, the objectives of this study are aligned with the use of the quantitative theory (Creswell, 2013b).

Literature dedicated to entrepreneurship, like Buttar (2015), Choy, Kuppusamy and Jusoh (2005), Ekpoh and Edet (2011), Ilouga, Mouloungni and Sahut (2014) and Lanero, Vazquez and Aza (2015) employed the quantitative study method to examine the influence of education, entrepreneurship and related factors on careers. Considering the philosophies and the reasons for the research approaches discussed in this section and the characteristics of both quantitative and qualitative method, the former appears to be more suitable to be employed in the present study.

3.3 Population of the Study

A population refers to the collection of individuals, persons, things or events that is significant to the researcher in his exploration of it at a specific period (Sekaran & Bougie, 2013). According to Zikmund, Babin, Carr and Griffin (2012), population is a collection of objects/individuals sharing similar features that the researcher is focused on examining (Zikmund, Babin, Carr, & Griffin, 2010), and according to Hair, Anderson and Tatham (2010), encapsulates data collection of specific items of interest that the researcher is intent on analysing in terms of their properties in a study (Hair, Anderson, & Tatham, 2010). Furthermore, population could be defined as the entire collection of the subject of interest to be studied in a research (Cavana,

Delahaye, & Sekaran, 2001). Moreover, the study population was described by Creswell (2013b) as a group of individuals possessing similar characteristics/features that the researcher is focused on a specific period in time (Creswell, 2013b). In this regard, the population has to be accurate when it comes to components, places and the period of time (Sekaran & Bougie, 2013).

In the present study, the study comprised of final year undergraduate students of various business schools (management, accounting, finance and economic) at higher education entities in Palestine for the years 2016-2017. In contrast, other academic programs were excluded from the survey due to absence of entrepreneurial awareness, entrepreneurial culture and furthermore, this course in the Palestinian educational system still at infant. Moreover, majority of local universities in Palestine launched entrepreneurship courses in order to promote the skills and knowledge of business students in the entrepreneurial field, not other programs due to that this topic still at infant at Palestine. Moreover, business students have been exposed to at least one entrepreneurship program that an influence their tendency towards an entrepreneurship career, giving them the opportunity to study such career.

Furthermore, several entrepreneurship studies have focused on business students e.g. (Kolvereid, 1996b; Krueger, Reilly, & Carsrud 2000). As the result, it is impossible to included students from other academic programs who may lack the experience or even the interest in the subject in the first steps of entrepreneurship education or entrepreneurial awareness, entrepreneurial culture. This may cause a bias in the

responses. So the study suggested that this course should be offer as a general course to all students.

Additionally, this group of students (final year of undergraduate students) are significant in that they are potential future entrepreneurs and is an appropriate focus group of entrepreneurship education in higher education institutions (Hirschi, 2013). This group of students is selected as the study population as they are the stage where they often decide on which career to pursue and also used in previous studies (Bilge & BAL, 2012; Carsrud & Brännback, 2011; Ekpoh & Edet, 2011; Ellen, 2010; Karimi, Chizari, Biemans, & Mulder, 2010; Liñán, Rodríguez-Cohard, et al., 2011; Souitaris et al., 2007). Along a similar line of study, Fayolle and Gailly (2005) adopted a sample of study comprising of final year students of higher education institutions. They justified this selection as this group is appropriate to examine entrepreneurship intentions on as they are ready to decide on the career to pursue. They also justified it by stating that within the community, all kinds of people with different choices and intentions can be anticipated. Moreover, some of the individuals within the sample may have developed entrepreneurial behaviour. Aside from these justifications, young adults at their time of the final year, have been exposed to courses/programs concerning entrepreneurship education (Fayolle & Gailly, 2005). Such influence of university education indicates a higher tendency towards entrepreneurship (Reynolds, Bygrave, Autio, Cox, & Hay, 2002). The universities from which the study sample is selected are listed in Table 3.1.

Table 3.1
Total Number of Universities Located in Palestine

No	University Name	No	University Name
1	Palestine Polytechnic University	8	Al-Isra University
2	An-Najah National University	9	Islamic University-Gaza
3	Birzeit University	10	Al-Azhar University-Gaza
4	Hebron University	11	Al-Aqsa University
5	Bethlehem University	12	University of Palestine
6	Arab American University	13	Gaza University
7	Palestine Technical University		

Source: Ministry of Higher Education Survey (2015)

The Palestine Ministry of Higher Education (2015) conducted a survey involving 13 universities wherein 132, 449 students were chosen. As it was impossible to find published sources of final year business students' data in Palestine, the information was gathered from the universities through phone and personal visits. Based on the information, there are over 4199 final year business students in the academic session of 2016/2017 in a total of 13 Palestinian universities (West Bank and Gaza Strip).

3.4 Sample and Sample Size

A sample forms a subsection of the population that can represent the study population. Through the sample, the researcher is enabled to reach conclusions that are generalizable to the entire population (Cavana et al., 2001; Sekaran & Bougie, 2013). Moreover, it is important to utilize the appropriate sample size for a research that can be generalized and using the top representative of the population, adds to that generalizability. In relation to this, Creswell (2012) explained that sampling is the process of selecting adequate elements units in the study population as representative

of the whole population (Creswell, 2013a). Nevertheless, the sample properties enable the examination and the generalization of properties to the population on the whole.

Additionally, there are three crucial issues highlighted by Zikmund et al. (2010) to determine the sample size and they are; heterogeneity of population (variance), degree of acceptable error (± some amount) and lastly, the level of confidence (90%, 95% or 99%) (Zikmund et al., 2010). Stated clearly, in order to calculate the size of the sample, it is important for the researcher to determine the population's standard deviation, the confidence interval and confidence level. Such factors were considered to determine the sample size with the help of the following formula;

$$n = (z\ s \setminus E)^2$$

Where:

n = sample size

z = standard value that corresponds to confidence level of the sample

s = standard deviation of the population

E = acceptable magnitude of error \ confidence interval.

Moreover, prior studies have developed statistical tables upon which the size of the sample of a given population can be decided. The increasing requirements for the representative sample in empirical studies have led to the increasing need for effective methods to determine the sample size of a specific population. In the study by Krejcie and Morgan (1970), this issue is handled by the establishment of the statistical table to determine the sample size. The table indicates various sample sizes for various population ranges. As a consequence, the present study's sample size was

determined with the help of Krejcie and Morgan's (1970) table, and ultimately, the formula to guarantee sufficiency of sample (Krejcie & Morgan, 1970).

Accordingly, on the basis of the information gathered from the universities, there are 4199 final year business students in 13 Palestinian universities in West Bank and Gaza Strip, and this comprised the study population. Thus, the table established by Krejcie and Morgan (1970) recommends a sample size of 351 students to be chosen for the sample study. In order to mitigate the sampling error and address non-response level, the sample size has to be multiplied by two as indicated in Hair, Wolfinbarger and Ortinall (2008). In effect, a total of 702 questionnaires were distributed to the sample (Hair, Wolfinbarger, Ortinau, & Bush, 2008).

3.5 Sampling Design

There are two primary sampling design types and they are probability and non-probability sampling method. The former is the top extensively sampling method preferred when the population representative is the most crucial factor, and if generalization of findings is of interest (Cavana et al., 2001; Sekaran & Bougie, 2013; Zikmund et al., 2010). To add to the above further, Sekaran and Bougie (2013) indicated the importance of considering the following points when selecting a sampling design; the nature of the study population, the parameters of the study's interest, the type of available sample frame, the costs related to the sampling design, and the availability of the time for data collection from the sample.

Considering the above discussion, in this study, the researcher made use of probability sampling design to choose the sample. This type of sampling gives every population element an equal opportunity to be chosen as part of the sample (Sekaran & Bougie, 2013; Zikmund et al., 2010). Specifically, cluster sampling technique, one type of probability sampling is employed in this study to determine the sample. This is because cluster sampling generates suitable sample size in an economical manner, while making sure that the characteristics of the sample are maintained (Zikmund et al., 2010).

In this regard, clusters representing the geographic areas in a way that the study is divided into two geo-political zones are made. These two zones are the West Bank and Gaza Strip –the number of universities within each zone is listed in Table 3.2.

Table 3.2
Geo-political Zones at the Palestine and Respective Universities at each Zone

No	West Bank (cluster 1)	Gaza Strip (cluster 2)
1.	Palestine Polytechnic University	Islamic University- Gaza
2.	An-Najah National University	Al-Azhar University-Gaza
3.	Birzeit University	Al-Aqsa University
4.	Hebron University	University of Palestine
5.	Bethlehem University	Gaza University
6.	Arab American University	Al-Isra University
7.	Palestine Technical University	

Source: Ministry of Higher Education Survey (2015)

It is clear from the above table, that three universities from each zone were randomly selected by fishbowl draw technique, with proportionate number of elements selected from each university using the sample rand method to constitute the study sample.

Furthermore, this chosen number (six universities) due to the fact that the restriction of the movement of Palestinians in the Israeli-occupied territories by the Israeli government is the big reason to excluded the remaining universities from my sampling frame. We Palestinians can't moving free of Israeli military presence. As a Palestinian citizenship needs permit for movement between the Palestinian areas and this takes a long time, money, double efforts and exposure to risk to get the permit. These are beyond the capabilities of the researcher. The permit system put in place in the early 1990s which requires that all Palestinians obtain military issued permits to move between the West Bank, Gaza, and East Jerusalem or to travel abroad is now complemented by a permanent system of roadblocks, gates, checkpoints, the Wall and other obstacles to movement in the West Bank (including East Jerusalem) and the Gaza blockade.

Moreover, the randomly chosen universities from the two zones include Islamic University of Gaza, Al-Aqsa University of Gaza, University of Palestine, Arab American University of Jenin, Palestine Technical University-Kadoorie and An-Najah National University. Other studies of the same calibre also employed the cluster sampling design e.g. (Dohse & Walter, 2012; Kim-Soon, Ahmad, Saberi, & Tat, 2013; Owoseni Omosolape Olakitan & Ayobami, 2011; Oriarewo, Agbim, & Aondoseer, 2013). The number of respondents selected proportionally from each

selected university at each department of the university was selected with the help of simple random sampling as presented in Table 3.3.

Table 3.3
Students' Population and Sample Proportion per University

No	University	Students' Population	Sample's Percentage	Proportionate Sample
1.	Islamic University-Gaza	345	15.5	109
2.	Al-Aqsa University	565	25.31	178
3.	University of Palestine	128	5.73	40
4.	Arab American University	434	19.44	136
5.	Palestine Technical University	366	16.40	115
6.	An-Najah National University	394	17.65	124
	Total	**2232**	**100**	**702**

3.6 Unit of Analysis

According to Cavana et al. (2001), a unit of analysis is referred to as the aggregation level of data collected in the data analysis stages (Cavana et al., 2001). It reflects the study's main element of focus. In the realm of social science, authors have employed individual, organization, social interaction or group of organizations/individuals as their unit of analysis (Creswell, 2013a; Hair, Anderson, et al., 2010). It is crucial to align the unit of analysis to the research problem, research questions and study objectives (Cavana et al., 2001). In this study, the final year undergraduate students are considered as the unit of analysis. In this aspect, this study is similar to prior studies that extensively utilized final year students as their unit of analysis in the

literature dedicated to entrepreneurial career e.g. (Fatoki, 2010; Jiang & Park, 2012; Krueger, Reilly , et al., 2000; Liñán, Rodríguez-Cohard, et al., 2011; Molaei et al., 2014; Naktiyok, Karabey, & Gulluce, 2010; Nwankwo, Kanu, Marire, Balogun, & Uhiara, 2012; Olakitan, 2014).

This is also supported by other studies that advocated the use of final year students as the most suitable respondents in this case owing to the fact that they are in the stage where they have to decide on the career to pursue (Ahmed et al., 2010; Buttar, 2015; Fitzsimmons & Douglas, 2011; Gibb, 2010; Gibcus et al., 2012; Hattab, 2014; Ifedili & Ofoegbu, 2011; Jiang & Park, 2012; Jones et al., 2008; Mushtaq, Niazi, & Hunjra, 2011; Nishantha, 2009; Njoroge & Gathungu, 2013; David Rae & Ruth Woodier-Harris, 2013; Sharma & Madan, 2014).

3.7 Data Collection Procedure

The data collection process started with the submission of introductory letter for data collection and research work (see Appendix A) to the units' heads of the various universities. The letter certified that the researcher is a student of Universiti Utara Malaysia (UUM) conducting a research work and appealed that the exercise is purely academic. The sample size 351 respondents were drawn based on recommendation of Kriejcie and Morgan (1970) sample size determination table. However, in order to minimize sampling error and take care of non-responses bias, the sample size was multiplied by two as suggested in Hair et al. (2008). Henceforth a total of 702 questionnaire forms were personally distributed with the help of research assistants to the final year business students across the six randomly selected universities at the

Palestine (Gaza and West Bank). The respondents were randomly selected based on proportionate random sampling technique (see table 3.3). In this regard, the universities were divided into clusters – Gaza and West Bank and three universities were randomly selected from each cluster. In addition, a proportionate sample (see table 3.3) was randomly selected from each of six selected universities in a region.

Furthermore, the researcher visited the universities under investigation to get the prior permission from the heads of departments of the respective universities for collecting the data. Subsequently, the researcher together with the research assistants explained in detail about his investigation with heads of the respective departments and sought the permission from them for collecting the necessary data as well the list of all final year students. Based on the given of excel file that listed into all final year students, the researcher has generated randomly list of students by these steps (Excel file, Data, Data analysis, Analysis tool … selected sampling, sampling method, random, number of samples, and then OK), after that, the researcher has made an invitation for them in batches by SMS to assemble in a class in the university to begin of distribution process. Moreover, when the researcher giving the questionnaires to them by hand, it is likely to motivate them to respond and hence higher response rate can be achieved. The researcher could encourage the respondent to complete the questionnaire by emphasizing the importance of such participation and direct him/her on the return procedure in case the student was a busy. These activities may be increasing the rate of response and reduce non-response error (Cooper & Schindler, 2011). The same procedure was followed by the researcher

together with the research assistants in all the departments of the respective universities.

In order to increase the response rate, the researcher together with the research assistants made a number of follow up mainly through personal contact with the respondents and heads of departments. In addition, the researcher made personal phone calls during the process of data collection in order to encourage and remind the respondents to respond (Dillman et al., 2009; Traina, MacLean, Park, & Kahn, 2005; Porter, 2004; Sekaran, 2003). So also, the research assistants made several efforts including personal visitations and phone calls to retrieve the questionnaire distributed from the respondents. The data collection period took about two months starting from 16th July 2017 and ended at 17th September 2017. In the process, a total of 323 questionnaires were duly completed and returned that represents 46 percent response rate.

3.8 Operationalization and Measures of Variables

The working definitions of the study variables are deemed to be important in the quantification of the abstract conceptions, particularly of those that fall into specific study areas (Cavana et al., 2001). Concept operationalization is frequently viewed based on the behavioural aspects, dimensions or properties that symbolize the concept. Added to this, such behavioural aspects, dimensions or properties are modified in a way that they can be observed and quantified to produce indices, with which the concept is measured with. Sekaran and Bougie (2013) stated that concept operationalization consists of several chronological steps that includes the following;

laying down the definition of constructs to be measured, formative answers, and measuring scale reliability (Sekaran & Bougie, 2013). In the present study, the variables measurements by either adopted measures from prior works or those adapted from the same. They are presented in the next sub-sections.

3.8.1 Measures for Entrepreneurial Career Option

The operationalization of entrepreneurial career option is the conscious and accurate decision made to prefer entrepreneurship as a career (Moriano et al., 2011). It was measured by 12 items adapted from the study conducted by Jane, Vivienne, Philip and Wright (2003), and the items can be traced back to the items based on the Theng and Boom's (1996) study. Initially, in Jane et al.'s (2003) study, it was measured by 12 items (Jane et al., 2003), but in this study, the eleventh and the twelfth item that read "I prefer entrepreneurial career to recognize and exploit business opportunities", and "I prefer entrepreneurial career to develop new ideas, innovations and initiatives" were divided into two owing to their double-barrel nature. Hence, the total items used to measure the construct were 14 as listed in Table 3.4.

Furthermore, entrepreneurial career intention is often used as a dependent variable in entrepreneurship studies (Autio et al., 2001; Chen et al., 1998; Kolvereid, 1996; Kolvereid & Isaksen, 2006; Zhao et al., 2005). Moreover, different ways of measuring entrepreneurial career have been observed in the field, but coincidently, there is a common agreement on measuring this variable in terms of the likelihood that one will engage in entrepreneurship at some time in the future (Autio et al., 2001; Chen et al., 1998; Hirschi & Fischer 2013; Hood & Young, 1993; Kolvereid &

Isaksen, 2006; Krueguer and Carsrud, 1993; Lanero et al., 2015; Zhao et al., 2005). Therefore, in this study, the items to measure the entrepreneurial career option has been based on the likelihood measurement.

In this study, the participants are business students on campus and the entrepreneurship education is awareness education which aims to deliver entrepreneurial knowledge and skills to students in order to improve their career and attitudes toward entrepreneurship. The items to measure the entrepreneurial career of the students is more appropriate to be general and related to the university environment (e.g., entrepreneurial activities/programs offered in university). The measures concern the likelihood that the students would be involved in the on-campus entrepreneurial programs/activities (which aim to assist students in creating own business) and the likelihood that they would start own business in the future.

Table 3.4
Measures for Entrepreneurial career option

No	Item
1.	I prefer entrepreneurial career to increase my personal income.
2.	I prefer entrepreneurial career to increase my opportunity.
3.	I prefer entrepreneurial career to acquire personal wealth.
4.	I prefer entrepreneurial career to be my own boss.
5.	I prefer entrepreneurial career to become self-employed.
6.	I prefer entrepreneurial career to control my own destiny.
7.	I prefer entrepreneurial career to acquire personal security.
8.	I prefer entrepreneurial career to enjoy my personal excitement.
9.	I prefer entrepreneurial career to meet business challenges.

10. I prefer entrepreneurial career to prove I can do it.

11. I prefer entrepreneurial career to recognize business opportunities.

12. I prefer entrepreneurial career to exploit business opportunities.

13. I prefer entrepreneurial career to develop new ideas.

14 I prefer entrepreneurial career to develop new innovations and initiatives.

Source: Adapted from Jane et al., (2003)

The items are measured with the help of a 5-point Likert scale that ranges from 1 denoting 'strongly disagree' to 5 denoting 'strongly agree'. In the study by Jane et al. (2003), a Cronbach alpha reliability coefficient value was reported at 0.78. The measures are deemed to be reliability in consistent with Sekaran and Bougie's (2013) highly reliability index of 0.70 and above that are considered suitable for the studies in social science.

3.8.2 Measures for Entrepreneurship Education

With regards to entrepreneurial education, data was gathered by asking the participants to the survey to provide their feedback on the entrepreneurship course they tool in the Palestinian higher education institutions. The construct of entrepreneurship education was adapted form Lo (2011), who based his study on Johannison (1991). Furthermore, the construct of EE was divided into four dimensions namely know-what, know-why, know-who and know-how.

Moreover, in the previous studies on entrepreneurship education only asserted the general impact of entrepreneurship education on entrepreneurial career intentions

(Autio et al., 1997; Charney & Libecap, 2000; Chen et al., 1998; Clark et al., 1984; Dutta et al., 2011; Fayolle et al., 2006a; 2006b; Lee et al., 2005; Perterman & Kennedy, 2003; Souitaris et al., 2007; Tkachev & Kolvereid, 1999; Varela & Jimenez, 2001). These studies considered entrepreneurship education as a general control factor or independent variable in their studies, none of them investigated the specific influence of education components on entrepreneurial career intention.

In this study, the purpose is to investigate the systematic impact of specific entrepreneurship education components on entrepreneurial career option, in order to get new insights into the design of course content as well as teaching guidelines of an entrepreneurship course. In this sense, every education dimension should be considered as a separated construct to measure the different aspects of entrepreneurship education. Therefore, multiple and numerical measures are more suitable. The details of the measurements of these dimensions are displayed in table 3.5.

Table 3.5
Measures for Know-what (KWHAT)

No	Item
1.	The entrepreneurship course increases my understanding of generating innovative ideas.
2.	The entrepreneurship course increases my understanding of entrepreneurial ventures.
3.	The entrepreneurship course increases my understanding of financial preparation for entrepreneurial ventures.
4.	The entrepreneurship course increases my understanding of planning business.
5.	The entrepreneurship course increases my understanding of market research for entrepreneurial ventures.

Measures for Know-why (KWHY)

No	Item
1.	The entrepreneurship course increases my understanding of the attitudes of entrepreneurs (i.e., how they view entrepreneurship and why they act).

2.	The entrepreneurship course increases my understanding of the importance of entrepreneurship.
3.	The entrepreneurship course increases my understanding of the personal characteristics of entrepreneurs (e.g., risk taking, innovation, etc).
4.	The entrepreneurship course gives me a sense that entrepreneurship is achievable.
5.	The entrepreneurship course increases my understanding of the motives of engaging in entrepreneurial activities (e.g., money, self-achievement, social status, etc).

Measures for Know-who (KWHO)

No	Item
1.	The entrepreneurship course enhances my ability to develop networks (e.g., obtaining useful from professor, guest speakers or classmate).
2.	Views of the professor inspire my entrepreneurial mind.
3.	Views of external speakers inspire my entrepreneurial mind.
4.	Successful stories of local entrepreneurs inspire my entrepreneurial mind.
5.	The entrepreneurial experience of the entrepreneurs enhances my understanding of the entrepreneurial process.

Measures for Know-how (KHOW)

No	Item
1.	The entrepreneurship course enhances my skills to develop a business plane.
2.	The course enhances my skills to handle an entrepreneurship project.
3.	The entrepreneurship course enhances my skills to deal with risks and uncertainties.
4.	The entrepreneurship course enhances my skills to allocate resources (e.g., money, personal, time etc.).
5.	The entrepreneurship course enhances my ability to identify a business opportunity.

Source: Adapted from Lo (2011).

Similar to the first measurements, the items are gauged with the help of a 5-point Likert scale that ranges from 1 noting 'strongly disagreed' to 5 denoting 'strongly agree. The reliability of the survey items measured through Cronbach's reliability

coefficient was noted at 0.924 and 0.858 respectively by Weber et al. (2009) and Linan (2008).

3.8.3 Measures for Entrepreneurial Opportunity Recognition

In this study, opportunity recognition was measured by using a five-item scale consisting of the questions adopted from past studies dedicated to opportunity recognition (Ozgen & Baron, 2007; Singh et al., 1999). The items were measured by a 5-point Liker scale that ranged from 1 denoting 'strongly disagree' to 5 denoting 'strongly agree'. The fifth question's answer was divided into the following categories; none, one, two, three, four or more, with the answers coded from 1-5.

Moreover, previous studies adopted different ways of measuring entrepreneurial opportunity recognition (e.g. Westhead, Ucbasaran, Wright, and Binks, 2005; Singh et al., 1999; Gregoire et al. 2010). According to Shane (2003), the decision to recognize the entrepreneurial opportunity depends on the ability and intention of the entrepreneur. Therefore, the appropriate measure of entrepreneurial opportunity recognition are ability and intention which leads to recognition of entrepreneurial opportunities. Based on the above discussion, this study measured EOR by 5 items adopted from the study conducted by Baron & Ozgen (2007) which reflects the ability and intention of students to recognize the opportunities as well as the tendency to engage in new business, business expansion or self-employment better than those of Brana (2008), Reavley and Lituchy (2008) and Tata and Prasad (2008) who measured entrepreneurial opportunity only in terms of income and networking. Furthermore, Shane (2003) stated that entrepreneurial opportunity is a difficult construct to measure

but proxy measures such as the tendency to engage in new business formation, business expansion or self-employment could be adopted as well as the creation of new business or business diversification in terms of new products/services (Antoncic, 2006). Table 3.6 lists details of the measurement items.

Table 3.6
Measures for Entrepreneurial Opportunity Recognition (EOR)

No	Item
1.	I enjoy thinking about new ways of doing things.
2.	I frequently identify opportunities to start-up new businesses (even though I may not pursue them).
3.	I generally have ideas that will materialise into profitable enterprises.
4.	I frequently identify ideas that can be converted into new products or services (even though I may not pursue them).
5.	How many ideas for new business did you think of in the past month?

Source: Adapted from Ozgen & Baron (2007).

3.9 Data Collection Method

The survey approach employs different techniques of data collection and they are top effective data collection techniques, especially when the objective of the researcher is to identify the accuracy of the constructs measure in measuring it (Cavana et al., 2001; Sekaran & Bougie, 2013). Hence, this study considered the questionnaire to be an appropriate data collection method owing to its applicability cost and time effectiveness. To add to the justification of questionnaire use further, other studies in the past literature of the same calibre employed the same (Abdulai, 2015; Ahmad, Xavier, & Rahim Abu Bakar, 2014; Damaraju, Barney, & Dess, 2010; Decker, Calo,

& Weer, 2012; Dohse & Walter, 2012; Jiang & Park, 2012; Olakitan, 2014; David Rae & Ruth Woodier-Harris, 2013; Sesen, 2013).

The researcher distributed the questionnaires personally with the help of the research assistants to the respondents. Personally administered questionnaire has its advantages; the researcher is allowed to gather complete responses in a short time period and to clarify ambiguities that the respondents may have concerning the items (Cavana et al., 2001). Aside from the above, such questionnaires also enable the researcher to introduce the topic to the respondents and stimulate their interest, which could develop the ground for accurate feedback (Sekaran & Bougie, 2013). However, the responses obtained from these completed questionnaires formed the data for statistical analysis of the study.

3.9.1 Questionnaire Design

Data collection in this was used through a structured questionnaire with close-ended questions. Despite the differences in studies in terms of using different scaling methods to measure variables (e.g., four, five, six and seven point Likert scale), the mid-point scaling is deemed to provide superior and accurate outcomes (Cavana et al., 2001; Zikmund et al., 2010), as it allows respondents to provide accurate opinions. According to Cavana et al. (2001), better instruments should be adopted for accurate results, which in turn, enhance the research's scientific quality. Therefore, this study employed the five-point Liker scale, similar to previous studies e.g. (Ahmad et al., 2014; Dohse & Walter, 2012; Fatoki, 2010; Fitzsimmons & Douglas,

2011; Kim-Soon et al., 2013; Krumwiede, Hackert, Tokle, & Vokurka, 2012; Liñán, Rodríguez-Cohard, et al., 2011; Nwankwo et al., 2012; Sharma & Madan, 2014).

Moreover, Entrepreneurship consider as a hot topic at Palestine still in the early stages and the need exists to promote it. Moreover, a few studies carried out at Palestine about this topic. As a result, the researcher uncertain about how respondents will fall and does not has the benefit of past surveys, even the pilot study that carried out from researcher not sufficient to suggest forced choice, then, go with a balanced or odd numbered is the best scale. Furthermore, the researcher also does not know in advance if the respondents will skew heavily to one side due to the nature of some questions, topic, and maybe some of students do not have the best answer for some questions due to the lack of practice activities. Other words, by not having a "Neutral" or "No Opinion" option in the middle of the scale, respondents cannot "cop out" by choosing it. "However, forcing respondents to choose may cause some to skip the question, answer it incorrectly, or abandon the survey all together".

The study questionnaire was divided into four parts (A to D) with the contents as follows; Part A consisted of fourteen items that measured entrepreneurial career option (dependent variable), while Part B consisted of five items concerning entrepreneurial opportunity recognition (mediator variable) are measured. This is followed by Part C, wherein which the twenty items measuring the four dimensions of entrepreneurship education. Lastly, Part D consisted of seven items that solicits demographic information from the respondents.

3.9.2 Questionnaire Language

The focus of the questionnaire is the language, and as most Palestinians speak and understand Arabic as opposed to English, a back-to-back procedure was utilized to translate the questionnaire. First, it was translated from English to Arabic by two experts (see Appendix B). The first translation was translated again to English by expert scholars. According to Cooper & Schindler (2008), question transformation occurs when participants fail to process every word in the question, and hence may modify the question to suit their reference frame or to understand them. It is imperative to determine how participants modify unclear questions.

The questionnaire was sent to the review of two scholars (an entrepreneurship professional and one academic in management research). The contents, precision and appropriateness of the questions were checked. The content validity generally passed the scrutiny with minor modifications in some items (i.e., wording problems).

3.9.3 Control of Measurement Error

Measurement error refers to the level two which the values are not representations of the true values owing to measurement bias. Majority of the potential measurement error sources stem from data entry errors, respondents' failure to provide correct answers, or the unsuitability of the measurement used (Hair, Anderson, et al., 2010; Kothari, 2004). Nevertheless, the measurement of attitudinal variables is always susceptible to errors and thus, the measures developed for data collection has to be assessed (Cavana et al., 2001; Sekaran & Bougie, 2013).

The developed measures reasonable accuracy can be ensured by carrying out item analysis of responses to the items gauging the variables, and establishing their reliability and validity (Sekaran & Bougie, 2013). Therefore, the reliability and the validity of the measures are confirmed through pilot and actual study by analysing content validity, and discriminant and convergent validity (Sekaran & Bougie, 2013).

3.10 Pilot Study and Preliminary Test

Zikmund et al. (2010) described the pilot study as a process of conducting a small study and considering the collected data from a small number of respondents chosen from the same pool of respondents of the actual study (Zikmund et al., 2010). It is a trial, wherein a small-scale study is conducted prior to the actual study. It focuses on particular specifics of the study to investigate if the designated procedures will work as expected (Gay, Mills, & Airasian, 2011). Added to this, a pilot study has to be conducted to review the questions in the questionnaire and minimize the risk of fault and failure. Among the objectives of the pilot study are the validity and reliability test of the data collection instrument.

The study thus was carried out a pilot study using the data to assess the validity and internal consistency of the instrument, and to test the quality and predictability of the instrument and in turn, allowing the researcher's prediction and amendment to steer clear of problems in the actual study. More specifically, the instruments' validity refers to the level to which the research instrument measures what it is meant to measure rather than something else, whereas reliability refers to the level to which the

instrument is error-free, and thus its consistency is established throughout different items over a period (Sekaran & Bougie, 2013).

The size of the pilot study sample is generally minimal, although the researcher can adopt a bigger sample if the study consists of many stages (Malhotra, 2008). It is however expected that with an instrument with validity and reliability, measurement error can be mitigated. In this study, a pilot study was carried out using 70 questionnaires distributed to the final year students at business studies as the respondents. However, a total of 43 questionnaires were filled and returned which were used to test the validity and internal consistent reliability of the data collection's instrument of the study. The pilot test was conducted using PLS-SEM measurement model to ascertain the validity and reliability of the measurement instrument of the study.

3.10.1 Validity of the Measurement

Validity is described as the measure's correctness or the level to which the measure's score describes the conceptualizations of the phenomenon under focus (Zikmund et al., 2010). There are many validity tests that have been commonly utilized to confirm the measure's goodness and they are categorized into three major validities namely content validity, criterion-related validity and construct validity (Sekaran and Bougie (2013). In particular, content validity confirms the adequacy and representativeness of a set of items in measuring the concept. In the present study, content validity was confirmed with the assistance of a panel of experts requested to evaluate the items content validity as recommended by (Green & Tull; Hair, Anderson, et al., 2010;

Sekaran & Bougie, 2013). Accordingly, the survey instrument used for data collection in this study was validated by two experts from Al-Aqsa University-Gaza and two experts from Arab American University-West Bank to ensure both the face and content validity of the instrument. In the end, the corrections and observations made by these experts were incorporated in the original work and upgraded its standard and accuracy.

Furthermore, convergent validity which is emphasis that "a set of indicators represent one and the same underlying construct" (Henseler et al, 2009), was examined using (AVE) criterion, the average variance extracted (Fornell & Larcker, 1981) in addition to the face and content validity. Accordingly, an AVE value of 0.5 and above represents adequate and acceptable convergent validity (Hair et al., 2011; Henseler et al., 2009). Consequently, an AVE value of 0.50 indicates that half of the variance of the manifest variable is explained by the latent variable on average (Henseler et al, 2009). Hence, the results from the pilot study were used to test convergent validity among the latent variables as presented in Table 3.7.

Table 3.7
Test for convergent validity from the Pilot Study

Variable	**AVE**
Entrepreneurial career option	0.511
Know-what	0.581
Know-why	0.677
Know-who	0.505
Know-how	0.608
Entrepreneurial Opportunity Recognition	0.614

As presented in table 3.7 the AVEs of the latent variable range from 0.50 to 0.67. This shows that all the AVEs are within the established rule of thumb of 0.5 and above as adequate and acceptable value (Hair et al., 2011). The result indicates that all latent variables should be able explain a significant portion of each indicator's variance, typically at minimum 50%.

Finally, discriminant validity was also assessed, which indicates the extent to which measurement scale items are distinct from items of other conceptually distinct latent constructs (Hair et al., 2010). Using the data from the pilot study, discriminant validity was assessed by comparing the square root of AVE of each latent variable with the correlations of other latent variables in the correlation matrix. Accordingly, discriminant validity can be established once the indicator's outer loading of a latent construct is higher than its cross loadings in relation with other latent constructs (Chin, 1998; Hair et al., 2011). Table 3.8 represents the result of square roots of AVE of the latent variable in the study.

Table 3.8
The result of Square Roots of Average Variance Extracted

Latent variable	ECO	EOR	KHOW	KWHAT	KWHO	KWHY
ECO	**0.715**					
EOR	0.564	**0.784**				
KHOW	0.621	0.623	**0.780**			
KWHAT	0.557	0.371	0.322	**0.762**		
KWHO	0.620	0.479	0.702	0.541	**0.711**	
KWHY	0.491	0.639	0.665	0.419	0.630	**0.823**

Note: ECO = Entrepreneurial Career Option, EOR = Entrepreneurial Opportunity Recognition, KHOW = Know-How, KWHY = Know-Why, KWHAT = Know-What, KWHO = Know-Who.

Table 3.8 shows the result of square roots of average variance extracted (AVE) of the latent variable in relation to other latent variables in the study. The result displays the square roots of AVE in bold is higher than the correlations of other latent variables within the same row and column. Therefore, using Chin (1998) criterion discriminant validity can be established once the indicator's outer loading on a latent construct is higher than its cross loadings in relation with other latent constructs. Thus, result displays the non-existence of discriminant validity problem in this study.

3.10.2 Reliability of the Measurement

The measure's reliability indicates the magnitude to which the instrument is error-free and hence, has consistent measurement over a time period and via different instrument items (Cavana et al., 2001; Sekaran & Bougie, 2013). Also, the reliability index reflects the consistency and robustness of the items in the instruments in their assessment of the variables and their goodness of measure.

Various reliability tests have been proposed in literature to confirm internal consistency reliability (Hair, Anderson, et al., 2010; Kothari, 2004), with the most common among them being composite reliability and Cronbach's alpha reliability that were employed for a multi-point scale (Cavana et al., 2001). This study thus was carried out a pilot study to test the internal consistency reliability of the items using composite reliability and Cronbach's coefficient alpha values as presented in table 3.9.

Table 3.9
Composite reliability and Cronbach's Alpha Index for each Variable

Variable	Composite Reliability	Cronbach's Alpha
Entrepreneurial career option	0.862	0.810
Know-what	0.846	0.768
Know-who	0.835	0.753
Know-how	0.860	0.780
Know-why	0.862	0.759
Entrepreneurial opportunity recognition	0.864	0.788

The result above displayed the composite reliability values range from 0.835 to 0.864 and Cronbach Alpha scores range from 0.753 to 0.810 for the constructs are all within the acceptable limits (Hair et al., 2003). Joseph, William, Barry and Rolph (2010) recommended Cronbach Alpha 0.70 and above as adequate in conducting empirical study. Hence the result indicated that the instrument is valid and reliable for data collection of the study.

3.11 Data Analysis Method

3.11.1 Descriptive Statistics

Descriptive statistics technique is the most extensively utilized statistical tool to provide a description of the fundamental data characteristics in scientific studies. In relation to this, Zikmund et al. (2010) related that descriptive statistics provides a summary of the respondents' responses in the form of simple statistics that can be used to infer reference of the entire study population (Zikmund et al., 2010). Similarly, Sekaran and Bougie (2013) explained the initial stages to be achieved in order to confirm the accuracy, completeness, and suitability of data for further

analysis prior to the researcher's data analysis and testing of hypotheses. On the basis of the initial steps, further analyses were conducted to test data goodness.

This data exposes each variable to the analysis of different descriptive statistics techniques using central tendency including mean and dispersion like range, variance and standard deviation. In addition to these tests, other tests including frequencies, percentages and other charts are used for the calculation of the data normality. In order to achieve internal consistency reliability of data, the study utilized the SPSS software and Smart PLS software in the process.

3.11.2 Hypotheses Testing and Data Analysis

This section covers the inferential statistics tools used for data analysis and hypothesis testing. The development of spreadsheet applications and commercialized statistical software packages have become increasingly popular in researcher circles (Zikmund et al., 2010). with the top statistical packages leading the rest being SAS, SPSs, MINITAB, Excel, Smart PLS, STATPAK, among others. From among the above, SPSS is still the frequently-used among researchers in academia, professionals, and social science (Zikmund et al., 2010). In fact, social science authors have employed it more extensively in comparison to other statistical software techniques.

This justifies the use of SPSS, Partial Least Square and Structural Equation Modelling (PLS-SEM) in this study for data analysis. Smart PLS by Ringle, Wende and Will (2005) and PLS-Graph software applications were employed for data analysis and

presentation of results respectively (Ringle, Wende, & Will, 2005). Both techniques have been considered as the most user-friendly of techniques and they offer the option of making use of drop-down menus for analysis as opposed to written computer codes (Zikmund et al., 2010). In other words, this study selected SPSS and PLS-SEM for data analysis owing to their simplicity, user-friendly and completeness aspects.

In the context of inferential analysis, PLS-SEM application has expanded successfully in different areas of research, more specifically management sciences (Hair, Ringle, & Sarstedt, 2013; Hair, Sarstedt, Ringle, & Mena, 2012; Henseler, Ringle, Sinkovics, 2009; Pavlou & Fygenson, 2006). Various PLS-SEM improvements have been made more recently, these improvements contribute to the expansion of PLS-SEM's general usefulness as a research tool in the field of social sciences (Hair et al., 2011).

Furthermore, PLS-SEM offers higher flexibility to the researchers for interaction of theory and data (Chin, 2010). Hair et al. (2011) suggested the use of cross-validated redundancy in PLS-SEM estimates of the structural model as well as the measurement model for data production, and found that it fit the PLS-SEM approach accurately. In case an endogenous construct" cross-validated redundancy measure values for a particular endogenous latent variable is higher than zero, its explanatory latent constructs reveal predictive relevance.

According to Hair (2014), when testing mediating effects, researchers should rather follow Preacher and Hayes (2004, 2008) and bootstrap the sampling distribu-tion of the indirect effect, which works for simple and multiple media-tor models and can be applied to small sample sizes with more confidence. The approach is therefore

perfectly suited for the PLS-SEM method. In addition, the approach exhibits higher levels of statistical power. In addition, there are many recent studies in the field of social sciences used Partial Least Squares Structural Equation Model in (PLS-SEM) for data analyses and testing models.

To evaluate PLS models, two main methodological elements have to be considered (Hair et al., 2013; Valerie, 2012):

1. Evaluation of Measurement Model -- Reflective measurement models are evaluated on the basis of their internal consistency, the unidimensional of the constructs, the convergent validity of the measures associated with the constructs, and their discriminant validity as follows:

Internal Consistency Reliability: Use Cronbach's alpha as the lower bound of the internal consistency reliability and composite reliability as the upper bound for the true reliability. Both measures should exceed 0.70.

Convergent Validity: The average variance extracted (AVE) should be higher than 0.50. Construct Validity: Indicator loadings should be higher than 0.70. Also, called "exploratory factor analysis" (EFA).

Discriminant Validity: The AVE of each latent construct should be higher than the construct's highest squared correlation with any other latent construct (Fornell–Larcker's [1981] criterion). In addition, an indicator's loadings should be higher than all of its cross loadings.

2. Evaluation of the Structural Model -- The primary evaluation criteria for the structural model are as follows:

Hypothesis Testing: Bootstrapping is used to assess the path coefficients significance. The minimum number of bootstrap samples is 5000, and the number of cases should be equal to the number of observations in the original sample.

R Square (R^2): In marketing research studies, R^2 values of 0.75, 0.50, or 0.25 for endogenous latent variables in the structural model can be described as substantial, moderate, or weak, respectively.

Effect Size (f^2): The effect sizes of the impact of specific latent variables on the dependent latent variables are determined by f^2 analysis. The f^2 values of 0.02, 0.15 and 0.35, respectively, are used as guidelines for small, medium and large effect sizes of the predictive variables.

Predictive Relevance of the Model: The quality of the model can also be assessed by using the blindfolding procedure to obtain Q^2=1-SSE/SSO. If Q^2 is positive, the model has predictive validity; if it is negative, the model does not have predictive validity (Tenenhaus, 1999).

Goodness of Fit (GoF) of the Model: PLS Structural Equation Modelling has only one measure of goodness of fit, which was defined by Tenenhaus, Esposito, Chatelin and Lauro (2005, p 176) as the global fit measure (GoF). This measure is the geometric mean of the average variance extracted and the average R^2 for the endogenous

variables. According to Wetzels, Odekerken- Schroder and Oppen (2009), goodness of fit can be described as small (0.10), medium (0.25), and large (0.36).

3.12 Summary of the Chapter

The chapter presented the research methodology of the study. It began with research design, the population of the study which consisted of a total 4199 final year university students from the Palestinian universities as well as sample and sampling technique of the study. In addition, the chapter presented the data collection procedure as well as operationalization and measures of the variables in the study. Data collection method and the results of the pilot study were also presented in the chapter. Finally, the chapter presented the method of data analysis adapted in the study where both descriptive and inferential statistics were employed to describe the variables and test the hypotheses of the study.

CHAPTER FOUR

DATA ANALYSIS AND RESULTS

4.1 Introduction

This chapter primarily aims to present the results from data analysis and a discussion on the relationship of the study variables. The study employed descriptive as well as inferential statistics for data analysis. Specifically, descriptive analysis was used to provide a description of the variables characteristics and the respondents' demographic characteristic. In addition, the chapter contains the process of data collection and the issues encountered in survey responses, including the non-response bias, cleaning data, missing values as well as outliers. For this, the PLS-SEM was adopted and as such, the chapter also presents the measurement model to test the goodness of the instrument through construct validity and internal consistent reliability analysis. Moreover, the empirical outcomes of the tested hypotheses are illustrated through the use of structural model along with inferential statistics to achieve the study objectives.

4.2 Data Cleaning

A crucial aspect that forms a part of conducting a research, particularly multivariate analysis is data cleaning (Pallant, 2011). In the same way, the findings quality and meaningfulness largely depends on the data quality and the screening and editing of data (Hair, Anderson, et al., 2010; Hair, Black, Babin, & Anderson, 2010). The

process of data cleaning involves testing and treatment of missing data, outliers, multicollinearity, normality, homoscedasticity and linearity.

4.2.1 Missing Data

Missing data refers to a situation in which the valid values of a single or more variables are lacking for analysis purpose (Hair et al., 2010; Joseph et al., 2010). Missing data is considered too frequently exist in multivariate analysis. In this regard, one of the main challenges of any research is to tackle the issues of missing data as this could influence the results generalizability (Joseph et al., 2010). Thus, several remedies have been proposed to tackle this issue among authors Pallant, (2011); Tabachnick & Fiddel, (2007); Joseph et al., (2010), with one of them being replacement through the use of mean substitution (Joseph et al., 2010). In such replacement, mean substitution replaces the missing values of a variable with the mean value of such variable computed from the rest of its valid responses.

In relation to the negative outcomes of missing data in multivariate analysis, the researcher ensured that the size is reduced as the issue cannot be wholly prevented (Tabachnick & Fiddel, 2007; Joseph et al., 2010). Upon retrieving the questionnaires, a pre-clearing test was carried out prior to data coding, where the researcher went through every questionnaire to make sure that they are all filled in. Questionnaires with considerable unfilled questions were deemed invalid and were dropped from the sample as recommended by Joseph et al. (2010) and Pallant (2011). Added to this, the researcher conducted data coding in a step-wise manner in order to analyse the level to which missing data existed and the pattern it took. With

the detection of missing value, the researcher referred to the specified questionnaire reflecting the data to determine if the missing value resulted from the process of coding and was replaced as needed.

Moreover, the researcher conducted descriptive statistics with the help of SPSS version 21 for the detection and replacement of missing data (refer to Appendix J & K). Based on the results, 35 out of 13, 386 were randomly missed, constituting 0.26% of the total cases. In particular, entrepreneurial career option had ten missing values, entrepreneurial opportunity recognition had seven missing values, whereas know-what, know-who and know-why each had six missing values. Although there is no established acceptable level of missing values in a data set, 5% or less is generally deemed to be non-significant among researchers (Hair et al., 2010; Sekaran, 2003; Tabachnick & Fidell, 2007). The identified missing values were thereafter replaced through mean substitution as recommended by prior studies (e.g., Joseph et al., 2010; Tabachnick & Fidell, 2007). The total frequency and percentages of missing values throughout individual variables in this study are tabulated in Table 4.1 (refer to Appendix J for SPSS results).

Table 4.1
Frequency Distribution of the Missing values

Latent variables	**Frequency**
Entrepreneurial career option	10
Entrepreneurial opportunity recognition	7
Know- what	6
Know- why	6
Know- who	6
Total	**35**

4.2.2 Assessment of Outliers

An outlier refers to an observation that significantly deviates from the rest of the cases in a data set (Byrne, 2010). Outliers can generally be detected either from univariate or multivariate procedures according to the number of study constructs (Joseph et al., 2010). Additionally, researchers use as many of the outliers detective procedures as possible to search for a dependable pattern for outliers detection (Hair et al., 2010; Joseph et al., 2010). According to Tabachnick and Fidell (2007), univariate outliers can be determined through standardized values of variable called z-score. More specifically, in univariate outliers assessment, a standardized variable value (z-score) that exceeds ±3.29 ($p < .001$ sig. level) is deemed as an outlier and are treated as one (Tabachnick & Fidell, 2007; Hair et al., 2010).

The present study adopted some steps for the detection of outliers; first, the frequency was calculated through SPSS. Based on the frequency table, no observation deviated from the normal range. Also, standardized values with cut-off value of ±3.29 ($p < .001$) were calculated as established by Tabachnick and Fidell (2007) with the aim of highlighting any univariate out-of-range value within the set of data. According to this standard, none of the observations were found to be univariate outliers.

Another type of outliers is multivariate outliers and in this regard, the Mahalanobis distance (D2) having chi-square of 93.17 ($p = 0.001$) is generally employed to determined multivariate outliers. On this basis, none of the values was found to be

multivariate outliers. Therefore, no outlier was found in the dataset examined and the entire observations (291) remained for the final analysis (see Table 4.2).

Table 4.2
Distribution and Response Rate of the Questionnaires

Item	Frequency	Percentage (%)
Distributed questionnaires	702	100
Returned questionnaires	323	46. 011
Unreturned questionnaires	379	53.99
Returned and usable questionnaires	291	41.45
Returned and excluded questionnaires	32	4.56

The above table (Table 4.2) tabulates the rate of distribution and response for the instrument of data collection in the study. It is evident from the table that 702 questionnaire copies were distributed from the respondents and only 323 were retrieved (379 were remained with the respondents). Thirty-two copies were dropped from the analysis because of missing values. These copies had to be dropped as they fail to represent the sample (Hair et al., 2010). In relation to this, Sekaran (2003) revealed that a rate of response of 30% is appropriate for a study survey and in this study the rate of response was 41%, which is considered to be sufficient for the survey.

4.2.3 Normality Test

Owing to the fact that PLS-SEM is a non-parametric statistical tool, it does not require normal distribution of data as explained by Hair et al. (2014). Despite this detail, it is still imperative to make sure that distribution is close to normal, as extremely deviated distribution could lead to difficulty in measuring the significance

of the parameters (Hair, Ringle & Sartedt, 2011; Hair et al., 2014). Moreover, significantly non-normal distribution could maximize standard errors from bootstrapping and hence, mitigate the potential for some relationships to be significant (Hair et al., 2011; Henseler et al., 2009). On the basis of the study by Hair et al. (2014), normal distribution is thus desirable in multivariate analysis, especially when CB-SEM is employed. Similarly, Hair, Sarstedt, Ringle and Mena (2012) suggested the consideration of normality test even in PLS-SEM as skewness and kurtosis in the dataset could magnify the bootstrapped standard error estimations and result in devalued statistical significance of the path coefficients. This explanation is supported by Chernick (2008) and Ringle, Sarstedt and Straub (2012). On the basis of the above reasons, it was viewed important to conduct an assessment of data distribution in this study.

Normality test is generally carried out through statistical or graphical means (Hair et al., 2010; Mooi & Sarstedt, 2011). The fundamental tools used for statistical tests of normality for distribution of data are skewness and kurtosis, Kolmogorov-Smirnov test and Shapiro-Wilk test (Mooi & Sarstedt, 2011; Tabachnick & Fidell, 2013). Both the Kolmogorov-Smirnov test and Shapiro-Wilk test were developed for normality testing through the comparison of data to a normal distribution that possesses the same mean and standard deviation (Mooi & Sarstedt, 2011). Meanwhile, the skewness and kurtosis test gauges the level of deviation of data from normality (Hair et al., 2010; Tabachnick & Fidell, 2013). Nevertheless, the skewness and kurtosis tests are not capable of guaranteeing the basic differences in the analysis

with the size of sample that exceeds 200 (Tabachnick & Fidell, 2013) and on this basis, two methods were used to ensure normality of distribution.

In this study, potential abnormality and distribution nature were assessed by using skewness and kurtosis test (Hair et al., 2010; Kline, 2012; Tabachnick & Fidell, 2013). In this regard, Hair et al. (2010) contended that the threshold of skewness should be lower than 2 (< 2) and that of kurtosis should be lower than 7 (< 7). This was supported by Kline (2011) who stated that the absolute values of skewness are over 3, while kurtosis of more than 10 may be indicative of abnormality and that higher than 20 may indicate a more severe issue of non-normality. As a subsequence, the normality test results showed that the data had normal distribution as the z-scores of skewness and kurtosis for all items fell within the appropriate range of lower than 2 for skewness and lower than 7 for kurtosis (refer to Appendix L). The results tabulated in Table 4.3 presents the skewness and kurtosis statistical tests results.

Table 4.3
Results of Test of Skewness and Kurtosis

	n	Mean	Skewness		Kurtosis	
Construct	**Statistic**	**Statistic**	**Statistic**	**Std. Error**	**Statistic**	**Std. Error**
Entrepreneurial career option	291	3.20	-.026	.143	-.755	.285
Entrepreneurial opportunity recognition	291	2.60	.681	.143	-.627	.285
Know- how	291	3.53	-.364	.143	-.688	.285
Know- why	291	3.44	-.350	.143	-.490	.285
Know- what	291	3.56	-.782	.143	-.195	.285
Know- who	291	3.26	-.214	.143	.757	.285
Valid n (list wise)	291					

Along with the above test, this study also adopted graphical method to assess normality of data distribution. In relation to this, Field (2009) revealed that if the size of the sample is relatively large, it is more suitable to use graphical methods for the assessment of normality rather than statistical methods of skewness and kurtosis. Added to this, a large sample size mitigates the possibility of standard errors that can lead to inflated skewness and kurtosis statistics (Field, 2009; Hair et al., 2010; Kline, 2011; Tabachnick & Fidell, 2013). The histogram displaying data distribution is presented in Figure 4.1.

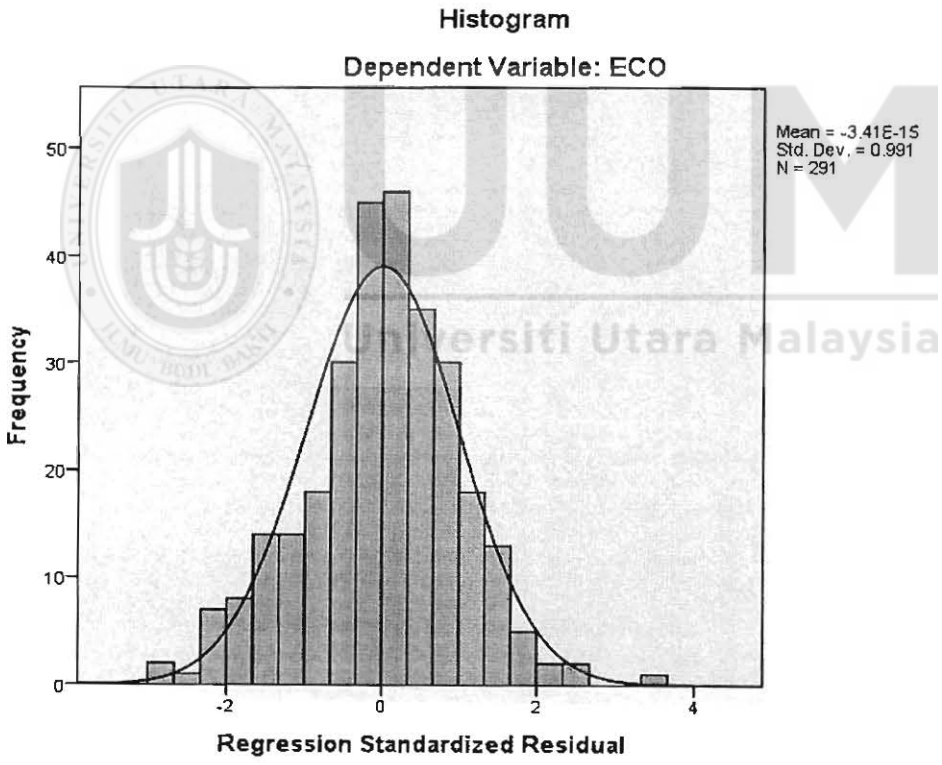

Figure 4.1
Histogram representing the distribution of the data

Graphically, normality is determined from the shape of the residual plots in the histogram – such shape reflects the distribution of data of an individual continuous variable and the corresponding normal distribution. The normal distribution assumption should be indicated by a diagram that is shaped like a bell (Tabachnick & Fidell, 2007). Based on this assumption, data was found to be normally and independently distributed (Tabachnick & Fidell, 2007). Figure 4.1 presents bell-shaped histogram residual plots, with the bars closed to the normal curve, indicating that data is normally distributed.

4.2.4 Multicollinearity

Multicollinearity refers to the situation, where two or more exogenous latent constructs are significantly interrelated (Sekaran & Bougie, 2010). Multiple regression method assumes that no single independent variable possesses a perfect linear relationship with another as explained by Tabachnick and Fidell (2007). Based on past studies (Hair et al., 2010; Sekaran & Bougie, 2010), multicollinearity in the exogenous latent variables can considerably interfere with the regression coefficients estimates and their statistical implications. In particular, multicollinearity issue arises when there is significant correlation among latent variables. According to Hair et al. (2010), the value of two or more than two independent variables is considered to be highly correlated when they are 0.9 and over.

The existence of multicollinearity can be assessed among independent variables through different methods (Peng & Lai, 2012; Tabachnick & Fidell, 2007). The top extensively utilized method for multicollinearity detection among exogenous latent

variables are Pearson Correlation, Variance Inflated Factor (VIF), tolerance index and condition index (Hair et al., 2010; Peng & Lai, 2012; Tabachnick & Fidell, 2007). From the above, the tolerance index and VIF are the most appropriate to be used for the detection of multicollinearity among independent constructs (Hair et al., 2010).

The present study used Pearson correlation matrix on the independent variables to test the presence of high correlation among them. Hair et al. (2010) revealed the threshold to be 0.9 and over for multicollinearity to be present among the variables. Pearson correlation results (refer to Appendix M) show that none of the independent variables highly correlated with another (see Table 4.4).

Table 4.4
Correlation matrix of the Exogenous Latent Variable

Latent Variable	**1**	**2**	**3**	**4**	**5**
Entrepreneurial opportunity recognition	1				
Know- how	0.625	1			
Know- why	0.682	0.748	1		
Know- what	0.449	0.488	0.553	1	
Know- who	0.607	0.791	0.713	0.549	1

Based on Table 4.4, the independent variables correlations did not exceed the threshold value of 0.90 (Hair et al., 2010), indicating no high correlations among the latent constructs no multicollinearity issue. Multicollinearity was also examined through the use of tolerance value and VIF, with the results presented in Table 4.5. Hair et al. (2010) suggested the use of both techniques owing to their reliability in testing multicollinearity among exogenous latent constructs.

Table 4.5
Collinearity statistics for Tolerance and VIF

Independent Variables	**Collinearity statistics**	
	Tolerance	VIF
Entrepreneurial opportunity recognition	0.495	2.020
Know- how	0.299	3.340
Know- why	0.329	3.036
Know- what	0.643	1.555
Know- who	0.318	3.141

It is clear from the table (4.5), that the tolerance values fell in the range from 0.299 and 0.643, exceeding the threshold value of 0.1 substantially (Hair et al., 2010), and the VIF fell in the range from 1.555 and 3.340 below the threshold value of 5 (Hair, Ringle & Sarstedt, 2011). In other words, tolerance index and VIF values for exogenous latent constructs showed no extreme interrelation between the constructs. It was therefore concluded that multicollinearity issue did not exist among the study's independent variables. (see appendix N).

4.2.5 Homoscedasticity

When dependent variables have equal level of variance throughout a range of independent variables, then homoscedasticity ensues (Hair et al., 2010). Homoscedasticity is basically a required assumption because in case the variance of the dependent variable is not centered around the independent values. With the violation of this assumption, heteroscedasticity arises and if this happens, the coefficient estimate is underestimated and in some cases, insignificant variables show statistical significance (Hair et al., 2010). Homoscedasticity can be confirmed by observing a plot of the regression standardized residuals/errors and the

standardized predicted value of regression (Osborne & Waters, 2002). The ideal condition is such that the value should be zero or scattered around the zero value. In case the residuals are scattered in random patterns around the horizontal line, distribution is considered even but if there is lack of even distribution around the line, then heteroscedasticity exists.

The assumption is confirmed in this study by observing the graph of standardized residuals by regression standardized predicated value. Figure 4.2 shows that the residuals were scattered at random around the horizontal line with zero or near zero value. Hence, the assumption of homoscedasticity was not breached in this study.

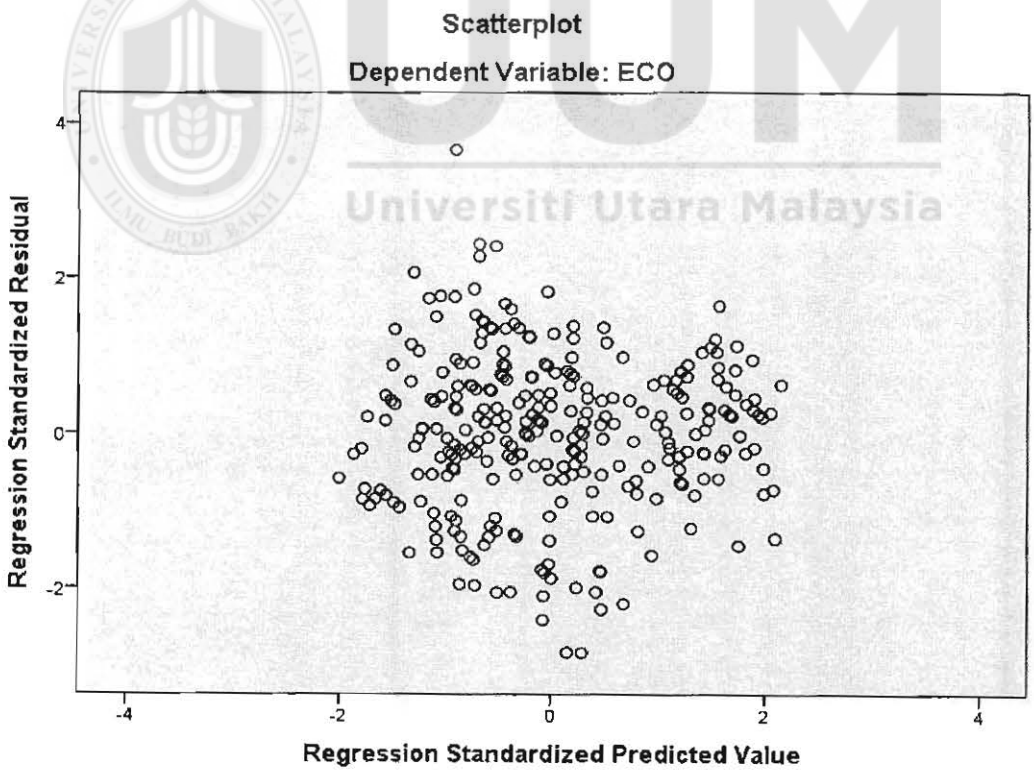

Figure 4.2
Standard Plot of Residuals Against the Predicted Values

4.2.6 Test of Linearity

The relationship of linearity between independent and dependent variables is another analysis assumption where linearity is generally confirmed through scatter plot of residuals against predicted values of independent variables. Along the same line of explanation, Flury and Riedwy (1988), the linearity assumption is met when the value residuals are scattered around zero, or most of them are scattered around the center in close proximity to zero. Figure 4.2 illustrates that the residual values of the dependent variable's (entrepreneurial career option) scatter plot are in close proximity to the zero point. Therefore, the probability plot for the regression standardized residuals indicates that the assumption is satisfied. Figure 4.3 shows that figure of P-P confirming such satisfaction.

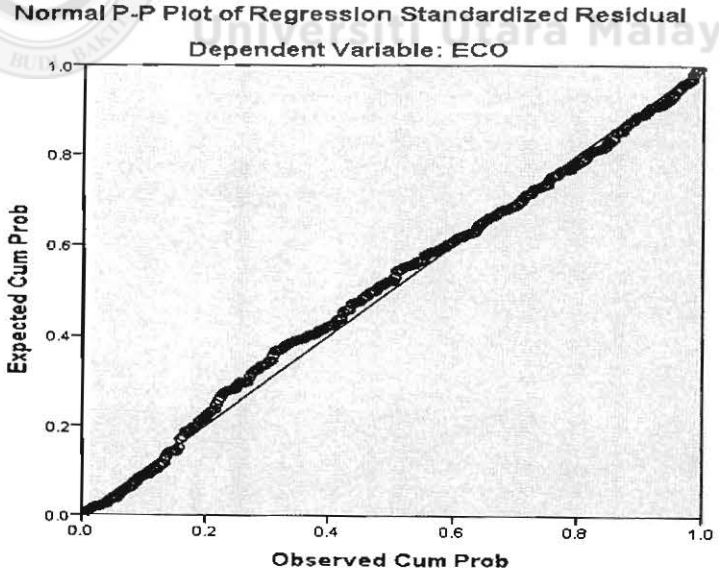

Figure 4.3
Probability Plot of Regression Standardized Residual

4.3 Descriptive Analysis of the Data

In Table 4.6, the descriptive analysis results are presented concerning the demographic profiles of the respondents making up the sample. The respondents' characteristics are encapsulated in their demographic factors of age, gender, study area, parents/close relations' self-employment, and occupational experience.

Table 4.6
Profile of the Respondents

Demographic variable	Category	Frequency	Percentage (%)
Age	18-29	258	88.7
	30-39	31	10.7
	40-49	2	0.7
	50 & above	0	-
Gender	Male	155	53.3
	Female	136	46.7
Area of study	Business	130	44.7
	Management	102	35.1
	Accounting	31	10.7
	Finance	28	9.6
	Economic		
Parents self-employed	Yes	123	42.3
	No	168	57.7
Closed relative self-employed	Yes	186	63.9
	No	105	36.1
Occupational experience	Self-employed	42	14.4
	Civil servant	22	7.6
	Working for others	27	9.3
	Apprenticeship	74	25.4
	Unemployed	126	43.3

On the basis of the results, majority of the respondents (88.7%), were aged from 18-29, while the rest were divided age-wise in the following proportion of percentage;

10.7% of the respondents were aged between 30-39 years, 0.7% were aged between 40-49 years and no respondents fell in the age group of 50 and above years. As for the respondents' gender, 53.3% of the respondents were male, while the rest were female respondents (46.7%), indicating that majority of the students in Palestinian universities are within the age group of 18-29 years and they are mostly male.

Moving on to the study area, based on the Table (4.6), majority of the respondents (44.7%) were students in the faculty of business management, followed by accounting (35.1%), finance (10.7%), and economic (9.6%). Moreover, 42.3% of the respondents indicated their parents as self-employed, 57.5% indicated them to be not self-employed.

As for their close relatives, 63.9% of the total sample indicated that they had self-employed close-relatives, while 36.1% had no self-employed close-relatives. The table also shows that majority of the respondents (43.3%) were not employed, others were apprenticed (25.4%) and some others were self-employed (14.4%). From the total respondents, 9.3% were working for others, whereas 7.6% of the respondents were civil servants. On the basis of the results of the descriptive statistics, it can be concluded that respondents vary in light of their ages, genders, specializations, parental occupations and occupational experiences.

4.4 Test of Non-Response Bias

The non-response bias is basically described as the failure to garner relevant information from the respondents (Berg, 2002; Churchill & Iacobucci, 2004) and it

stems from the inability to contact the study sample and the samples refusal to participate in the survey (Singer, 2006). Non-response bias was also described as the errors that arise from the difference of those who responded to the survey and their non-responding counterparts (Armstrong & Overton, 1977). As a consequence, non-response bias can mitigate the generalizability of the sample to the whole population.

In light of the above, two major ways were proposed by Wilcox et al. (1994) to address non-response bias and they are; developing measures to minimize or prevent error, and developing measures for assessing the level of error in the final survey outcomes. On the other hand, Churchill and Iacobucci (2004) brought forward three methods to address the same and they are; increasing the rate of response, reducing the effect of response refusal via follow-up, and inferring the collected data. Moreover, the basis lies in the simple premise that the respondents responding lackadaisically are more likely to be non-respondents (Armstrong & Overton, 1977). Therefore, comparing early and late respondents have been extensively used in survey studies to resolve the non-response bias issue (Diamantopoulos & Siguaw, 2006; Low, 2000; Morgan et al., 2004; Peck & Wiggins, 2006; Wang & Ahmed, 2004).

More importantly, the present study employed the extrapolation method proposed by Armstrong and Overton (1977) in comparing factors including demographics, and scales of independent and dependent variables (Churchill & Iacobucci, 2004; Peck & Wiggins, 2006). In other words, the non-response bias test often involves conducting a comparison between the mean and standard deviation of early and late responses in

the distribution. For this purpose, the respondents were categorized into two independent samples on the basis of the time they responded to the survey (early responses and late responses). The early responses (questionnaires returned within one month after distribution) and late responses (questionnaires returned after a month from distribution). In this study, 163 respondents were considered as early responses, while 128 were late responses.

Table 4.7
Group Descriptive Statistics for Early and Late Respondents

Constructs	Response Bias	n	Mean	Standard Deviation	Std. Mean Error
ECO	Early response	163	3.14	.695	.054
	Late response	128	3.29	.703	.062
EOR	Early response	163	2.51	.957	.075
	Late response	128	2.72	.909	.080
KHOW	Early response	163	3.51	.836	.066
	Late response	128	3.56	.865	.076
KWHY	Early response	163	3.41	.772	.060
	Late response	128	3.48	.796	.070
KWHAT	Early response	163	3.33	.983	.077
	Late response	128	3.87	.721	.064
KWHO	Early response	163	3.24	.933	.073
	Late response	128	3.29	.847	.075

Note: ECO = Entrepreneurial Career Option, EOR = Entrepreneurial Opportunity Recognition, KHOW = Know-How, KWHY = Know-Why, KWHAT = Know-What, KWHO = Know-Who.

According to the results of the independent t-test (see Table 4.7), no significant variance was found between the groups mean and standard deviation based on the items in the questionnaire concerning entrepreneurial career option, entrepreneurial opportunity recognition, know-how, know-why, know-what and know who. The result indicated slight variations statistically, but they had no effect on the overall outcome.

To supplement the above test, the study also employed the Levene's test for variance equality for the assessment of the level of variance between the two groups (early respondents and late respondents) following other prior studies in literature (e.g., Ahmed et al., 2010; Gerba, 2012; Grondutse & Hilman, 2013; Kunday & Cakir, 2014; Ibrahim & Mahmood, 2016). In the t-test, the two-tailed quality of means was adopted to assess the variance extent between the groups (see Table 4.8). The results of the test indicated no significant difference between the groups in terms of ECO, EOR, KHOW, KWHY, KWHAT and KWHO. This further supported the non-existence of non-response bias.

Table 4.8

Independent Samples t-test for Equality of Means Levene's Test for Equality of Variance

		Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
Constructs		**F**	**Sig.**	**t**	**df**	**Sig. (two-tailed)**	**Mean Difference**	**Std. Error Difference**	**Lower**	**Upper**
ECO	Equal variances assumed	0.007	.933	-1.875	289	.062	-.155	.082	-.317	.008
	Equal variances not assumed			-1.872	271.379	.062	-.155	.083	-.317	.008
EOR	Equal variances assumed	0.101	.751	-1.905	289	.058	-.211	.111	-.428	.007
	Equal variances not assumed			-1.917	278.786	.056	-.211	.110	-.427	.006
KHOW	Equal variances assumed	0.301	.584	-0.466	289	.642	-.047	.100	-.244	.151
	Equal variances not assumed			-0.464	268.494	.643	-.047	.101	-.245	.152
KWHY	Equal variances assumed	0.227	.634	-0.816	289	.415	-.075	.092	-.257	.107
	Equal variances not assumed			-0.813	268.879	.417	-.075	.093	-.258	.107
KWHAT	Equal variances assumed	1.316	.787	-0.259	289	.875	-.145	.104	-.249	-.141
	Equal variances not assumed			-0.454	287.734	.770	-.145	.100	-.242	-.148
KWHO	Equal variances assumed	1.776	.184	-0.543	289	.588	-.057	.106	-.266	.151
	Equal variances not assumed			-0.549	282.935	.584	-.057	.105	-.263	.149

Note: ECO = Entrepreneurial Career Option, EOR = Entrepreneurial Opportunity Recognition, KHOW = Know-How, KWHY = Know-Why, KWHAT = Know-What, KWHO = Know-Who.

4.5 Descriptive Analysis of Constructs

This study employed means as well as standard deviations to provide a description of the latent variables. In this regard, Sekaran and Bougie (2010) contended that descriptive statistics like means, standard deviations and variances are useful when taken from interval-scales. Similarly, Hair et al. (2010) laid stress on the fact that the top extensively utilized measures to describe constructs include means and standard deviations. Prior studies (e.g., Joseph et al., 2010; Sekaran & Bougie, 2010) referred to mean as the average value in a dataset (Sekaran & Bougie, 2010), while standard deviation gauges dispersion and indicates an inconsistency index in the dataset – it is the square root of variance. In other related studies (e.g., Nik, Jantan & Taib, 2010) three levels of mean scores were recommended for interval and ration scale and these include mean scores lower than 2.33 show represent low level score, mean scores from 2.33-3.67 represent moderate level scores, while mean scores from 3.67 and over represent high level score. The latent scores descriptive analysis using means and standard deviations are tabulated in Tables 4.9-4.15 (refer to Appendix L).

4.5.1 Mean and Standard deviation of Entrepreneurial Career Option

Table 4.9
Mean and Standard deviation of Entrepreneurial Career Option

No	Item	Mean	SD
1.	I prefer entrepreneurial career to increase my personal income	4.40	.569
2.	I prefer entrepreneurial career to increase my opportunity	2.88	1.295
3.	I prefer entrepreneurial career to acquire personal wealth	2.95	1.137
4.	I prefer entrepreneurial career to be my own boss	3.03	1.172
5.	I prefer entrepreneurial career to become self-employed	3.05	1.124

6.	I prefer entrepreneurial career to control my own destiny	3.10	1.112
7.	I prefer entrepreneurial career to acquire personal security	3.08	1.149
8.	I prefer entrepreneurial career to enjoy my personal excitement	4.36	.624
9.	I prefer entrepreneurial career to meet business challenges	3.04	1.155
10.	I prefer entrepreneurial career to prove I can do it	3.01	1.148
11.	I prefer entrepreneurial career to recognize business opportunities	3.00	1.141
12.	I prefer entrepreneurial career to exploit business opportunities	3.07	1.172
13.	I prefer entrepreneurial career to develop new ideas	2.98	1.165
14.	I prefer entrepreneurial career to develop new innovations and initiatives	2.92	1.191
	Entrepreneurial Career Option (ECO)	**3.21**	**0.701**

The table 4.9 above presented the mean and standard deviation of 14 items representing entrepreneurial career option (ECO). In line with Nik et al. (2010), two items out fourteen recorded high level of mean scores in the distribution, while the remaining twelve items showed moderate mean scores. Item number one "I prefer entrepreneurial career to increase my personal income" and item number eight "I prefer entrepreneurial career to enjoy my personal excitement" recorded the highest mean scores of 4.40 (M = 4. 40) and 4.36 (M = 4.36) respectively, and the standard deviation of 0.569 (SD = 0.569) and 0.624 (SD = 0.624) respectively. The result shows that preference for increase income and the personal excitement are the major determining factors for ECO.

4.5.2 Mean and Standard deviation of Know-how

Table 4.10
Mean and Standard deviation of Know-How

No	Item	Mean	SD
1.	The entrepreneurship course enhances my skills to develop a business plan.	3.66	1.049
2.	The course enhances my skills to handle an entrepreneurship project	3.60	1.029
3.	The entrepreneurship course enhances my skills to deal with risks and uncertainties	3.56	1.007
4.	The entrepreneurship course enhances my skills to allocate resources (e.g., money, personal, time etc.)	3.51	1.074
5.	The entrepreneurship course enhances my ability to identify a business opportunity	3.35	1.184
	Know-How (KHOW)	**3.53**	**0.848**

The mean and standard deviation of five items representing know-how are shown in table 4.10 above. The table revealed that all the five items representing know-how are having moderate level mean score. In addition, item one "The entrepreneurship course enhances my skills to develop a business plan" is the item with the highest mean score in the distribution (M = 3.66, SD = 1.049), while item five in the distribution "The entrepreneurship course enhances my ability to identify a business opportunity" recorded the lowest mean score in the range (M = 3.35, SD = 1.184). In essence, enhancing skills to develop a business plan is the key aspect of know-how.

4.5.3 Mean and Standard deviation of Know-why

Table 4.11
Mean and Standard deviation of Know-Why

No	Item	Mean	SD
1.	The entrepreneurship course increases my	3.57	1.147

	understanding of the attitudes of entrepreneurs (i.e., how they view entrepreneurship and why the act)		
2.	The entrepreneurship course increases my understanding of the importance of entrepreneurship	3.62	1.124
3.	The entrepreneurship course increases my understanding of the personal characteristics of entrepreneurs (e.g., risk taking, innovation etc.)	3.64	1.091
4.	The entrepreneurship course gives me a sense that entrepreneurship is achievable	3.15	1.050
5.	The entrepreneurship course increases my understanding of the motives of engaging in entrepreneurial activities (e.g., money, self-achievement, social status, etc.)	3.23	0.985
	Know-Why (KWHY)	**3.44**	**0.783**

In table 4.11 above, the mean and standard deviation of five items signifying know-why were reported. The table reported that all the five items recorded moderate level of mean score ranges from 3.15 to 3.64. The result also indicated that the understanding of the personal characteristics of entrepreneurs (e.g., risk taking, innovation etc.) recorded the highest mean score (M = 3.46, SD = 1.091), whereas the entrepreneurship course gives a sense that entrepreneurship is achievable recorded the lowest mean score in the distribution (M = 3.15, SD = 1.050). This shows that the understanding of the personal characteristics of entrepreneurs is the main characteristic demonstrating know-why.

4.5.4 Mean and Standard deviation of know-what

Table 4.12
Mean and Standard deviation of Know-What

No	Item	Mean	SD
1.	The entrepreneurship course increases my understanding of generating innovative ideas	3.48	1.259

2.	The entrepreneurship course increases my understanding of entrepreneurial ventures	3.54	1.169
3.	The entrepreneurship course increases my understanding of financial preparation for entrepreneurial ventures	3.51	1.146
4.	The entrepreneurship course increases my understanding of planning business	3.59	1.232
5.	The entrepreneurship course increases my understanding of market research for entrepreneurial ventures	3.70	1.201
	Know-What (KWHAT)	**3.56**	**0.917**

The mean and standard deviation of five items representing know-what were reported in table 4.12 above. The result indicated that one out of the five items recorded high level of mean score in the distribution, while the remaining four items recorded moderate level of mean score. In essence, item five in the distribution "The entrepreneurship course increases my understanding of market research for entrepreneurial ventures" recorded the highest mean score (M = 3.70, SD = 1.201), whereas item one "The entrepreneurship course increases my understanding of generating innovative ideas" recorded the lowest mean score (M = 3.48, SD = 1.259). This result reveals that understanding of market research for entrepreneurial ventures is the major characteristic signifying know-what.

4.5.5 Mean and Standard deviation of know-who

Table 4.13
Mean and Standard deviation of Know-Who

No	Item	Mean	SD
1.	The entrepreneurship course enhances my ability to develop networks (e.g., obtaining useful from professor, guest speakers or classmate)	3.13	1.131
2.	Views of the professor inspire my entrepreneurial mind	3.22	1.246
3.	Views of external speakers inspire my entrepreneurial	3.26	1.235

	mind		
4.	Successful stories of local entrepreneurs inspire my entrepreneurial mind	3.18	1.119
5.	The entrepreneurial experience of the entrepreneurs enhances my understanding of the entrepreneurial process	3.52	1.081
	Know-Who (KWHO)	**3.26**	**0.895**

Table 4.13 showed the mean and standard deviation of five items representing know-who. All the items with no exception recorded moderate level of mean score ranged from 3.13 to 3.52. The last item in the distribution "The entrepreneurial experience of the entrepreneurs enhances my understanding of the entrepreneurial process" recorded the highest mean score (M = 3.52, SD = 1.081), whereas the first item in the distribution "The entrepreneurship course enhances my ability to develop networks (e.g., obtaining useful from professor, guest speakers or classmate)" recorded the lowest mean score (M = 3.13, SD = 1.131). The result shows that the entrepreneurial experience of the entrepreneurs enhances my understanding of the entrepreneurial process as the main characteristic of know-who.

4.5.6 Mean and Standard deviation of Entrepreneurial Opportunity Recognition

Table 4.14
Mean and Standard deviation of Entrepreneurial Opportunity Recognition

No	Item	Mean	SD
1.	I enjoy thinking about new ways of doing things	2.58	1.407
2.	I frequently identify opportunities to start-up new business (even though I may not pursue them)	3.35	1.070
3.	I generally have ideas that may materialize into profitable enterprises	2.61	1.231

4.	I frequently identify ideas that can be converted into new products or services (even though i may not pursue them)	2.31	1.150
5.	How many ideas for new business did you think of in the past month?	2.15	1.108
	Entrepreneurial Opportunity Recognition (EOR)	**2.60**	**0.940**

Table 4.14 above showed mean and standard deviation of five items representing entrepreneurial opportunity recognition. The result revealed that only three out of five items recorded moderate level of mean scores ranged from 2.58 to 3.35, whereas the remaining two items representing entrepreneurial opportunity recognition recorded low level of mean scores ranged from 2.15 to 2.31. In addition, the result revealed that "I frequently identify opportunities to start-up new business (even though I may not pursue them)" recorded the highest mean score (M = 3.35, SD = 1.070), whereas "How many ideas for new business did you think of in the past month" recorded the lowest mean score (M = 2.15, SD = 1.108). In essence, the result shows that identifying opportunities to start-up new business is the main characteristic of entrepreneurial opportunity recognition.

Table 4.15
Summary of the Descriptive statistics for latent variables

No	Latent variable	No. of items	Mean	SD
1.	Entrepreneurial career option	14	3.20	0.701
2.	Know-How	5	3.53	0.848
3.	Know-Why	5	3.44	0.783
4.	Know-What	5	3.56	0.917
5.	Know-Who	5	3.26	0.895
6.	Entrepreneurial Opportunity Recognition	5	2.60	0.940

The table 4.15 above presented the mean and standard deviation of the entire latent variables in this study. The result showed that the entire variables with no exception recorded moderate level of mean scores ranged from 2.60 to 3.56. In nut shell, know-what recorded the highest mean score (M = 3.56, SD = 0.917), whereas entrepreneurial opportunity recognition recorded the less mean score (M = 2.60, SD = 0.940). Conclusively, the means of entire variables were at the range of moderate level. This justifies the suitability of the variables for the study.

4.6 Assessment of Measurement Model

The first step of PLS-SEM analysis involves the assessment of the measurement model/outer model. Such analysis confirms the individual items in light of its reliability, internal consistency, content and convergent validity and discriminant validity (Hair et al., 2011; Ramayah, Lee & In, 2011). The outer model examination confirms whether or not the survey items are successful in measuring the constructs they are meant to measure, establishing both their validity and reliability. In other words, the outer model analysis appraises the goodness of measures.

Accordingly, this study used PLS-SEM Algorithm to assess the outer model, with the aim of confirming reliability and validity of the constructs measures. In literature, Hair et al. (2013) recommended that both reliability and validity are two major criteria utilized in PLS-SEM analysis for the assessment of the goodness of the outer model. Along the same way, Ramayah et al. (2011) suggested the use of the following measurements; indicator reliability, internal consistency reliability,

convergent reliability and discriminant validity. PLS-SEM algorithm for the present study's measurement model is illustrated in Figure 4.4.

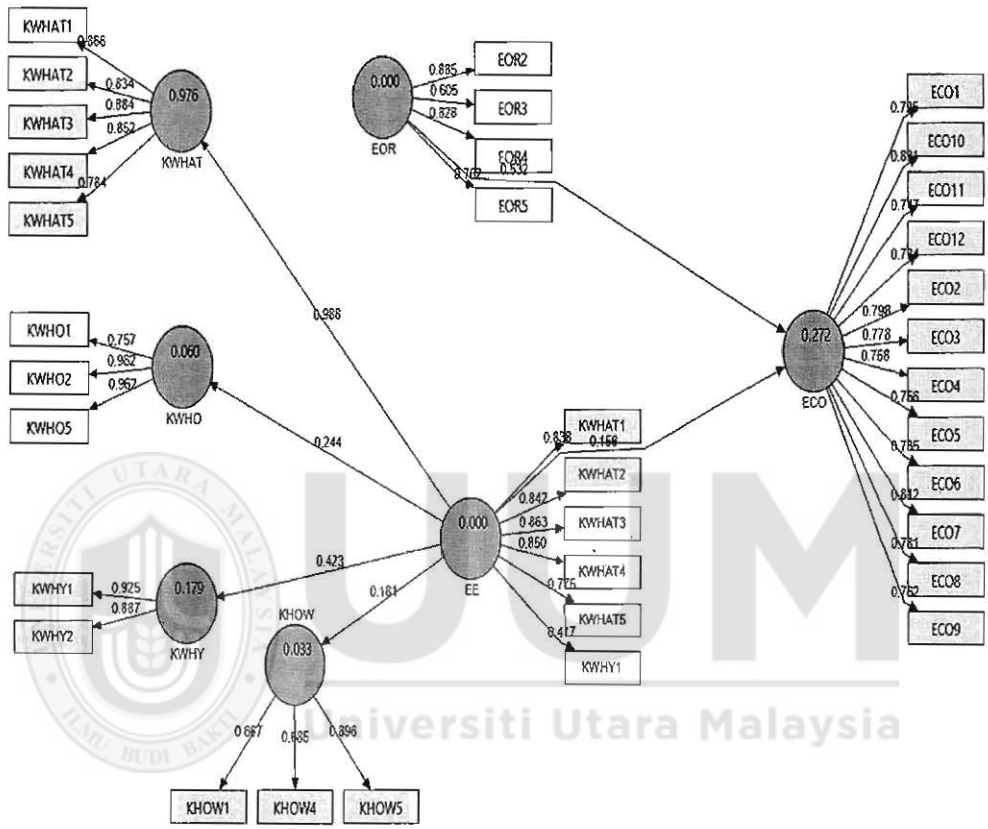

Figure 4.4
PLS-SEM Algorithms for Measurement Model

From the above figure, two major criteria are used for assessing model quality to evaluate the goodness of the model and they are reliability and validity. The reliability test conducts an assessment of the consistency of the measuring instrument in measuring what it is expected to measure (Hair et al., 2010; Sekaran & Bougie, 2010). To clarify, in this test, if different measurements are obtained over a time period, reliable measures are those that produce consistent values. As for the

validity test, it is used to assess the level to which a measure or set of measures accurately represents the study concepts (Ramayah et al., 2011). Validity addresses how accurate the study concept is defined by the measuring instrument. In the present study, the measurement model quality was evaluated based on indicator reliability, internal consistency reliability, convergent validity and discriminant validity.

4.6.1 Indicator Reliability

This study used PLS-SEM algorithm to assess the contribution of individual indicators (item reliability) to the appropriated construct by noting the outer loadings of individual items measuring the construct (Duarte & Raposo, 2010; Hair et al., 2012). Item loadings that fall in the range of 0.40-0.70 should be deemed for potential deletion if such deletion could result in increased composite reliability and average variance extracted (AVE) (Hair et al., 2016).

Following this recommendation, several ran PLS-SEM algorithms detected and deleted items that failed to meet the stated threshold. In particular, 10 items were deleted from 39 items (see Appendix O4) not because of failing to meet the threshold of outer loading value, but to increase the value of composite reliability and AVE. As a consequence, in the whole model, 29 items remained with loading values from 0.605 to 0.962 (see Appendix O3).

4.6.2 Internal Consistency Reliability

According to Sekaran and Bougie (2010) and Hair et al. (2013), internal consistency reliability generally shows the accuracy of the items in a set positively correlate with one another. Internal consistency reliability indicates the level to which the indicators of the constructs generate similar scores even when the construct is measured over a time period. It gauges the results stability when it comes to the items of a test (Hair et al., 2010; Sun et al., 2007). The top extensively employed methods to evaluate internal consistency reliability for a research instrument include Cronbach's alpha coefficient and composite reliability coefficient (Hair et al., 2010; Peterson & Kim, 2013).

As for the range of values, reliabilities that are lower than 0.60 are deemed to be poor, 0.70 is deemed acceptable, and those exceeding 0.80 are deemed to be good (Sekaran & Bougie, 2010). However, Hair et al. (2012) contended that Cronbach's alpha and composite reliability do not assume equal indicators of construct loadings, as composite reliability coefficient varies between 0 and 1, with a threshold value of 0.60 and values from 0.70 and over are the most encouraging (Hair et al., 2012; Hair et al., 2013; Henseler et al., 2009). Another take on the composite reliability coefficient values came from Nunnally and Bernstein (1994), who recommended values between 0.60 and 0.70 to be the average internal consistency, and those between 0.70 and 0.90 to be adequate. In conclusion, it is more suitable to use different measures of internal consistency reliability to counter the weaknesses of each individual measure (Hair et al., 2011; Hair et al., 2013).

Following the above recommendation, this study adopted composite reliability and Cronbach's alpha coefficient values of the constructs (see Appendix O1) and Table 4.16. The table indicates that both values (composite reliability and Cronbach's alpha coefficient) exceeded the threshold (0.70) (Hair et al., 2012; Hair et al., 2013; Sekaran & Bougie, 2010). More specifically, the composite reliability coefficient differed from 0.79 to 0.94, whereas the Cronbach's alpha coefficient values differed from 0.65 to 0.939, confirming the measurement model's reliability.

Table 4.16
Indicator Loadings and Internal Consistency Reliability

Latent constructs &Indicator	**Standardized Loadings**	**Composite Reliability**	**Cronbach's Alpha**	**AVE**
Entrepreneurial career option (ECO)		**0.947**	**0.939**	**0.598**
ECO01	0.725			
ECO10	0.831			
ECO11	0.747			
ECO12	0.784			
ECO02	0.798			
ECO03	0.778			
ECO04	0.758			
ECO05	0.756			
ECO06	0.735			
ECO07	0.812			
ECO08	0.781			
ECO09	0.762			
Know-How (KHOW)		**0.798**	**0.650**	**0.572**
KHOW01	0.667			
KHOW04	0.685			
KHOW05	0.896			
Know-What (KWHAT)		**0.925**	**0.899**	**0.713**
KWHAT01	0.866			
KWHAT02	0.834			
KWHAT03	0.884			
KWHAT04	0.852			
KWHAT05	0.784			
Know-Who (KWHO)		**0.926**	**0.875**	**0.807**

KWHO01	0.757			
KWHO02	0.962			
KWHO05	0.962			
Know-Why (KWHY)		**0.902**	**0.785**	**0.822**
KWHY01	0.925			
KWHY02	0.887			
Entrepreneurial Opportunity Recognition (EOR)		**0.857**	**0.807**	**0.604**
EOR02	0.885			
EOR03	0.605			
EOR04	0.828			
EOR05	0.762			

4.6.3 Convergent Validity

Convergent validity refers to the magnitude of the positive correlation of the measure with other measures of a single construct (Hair et al., 2013; Hair et al., 2014). On the construct level, the commonly used measure to confirm convergent validity is average variance extracted (AVE). AVE is considered to be the grand mean of the squared loadings of the indicators of a single construct (Hair et al., 2013; Hair, Ringle & Sarstedt, 2011). Based on the rule of thumb, a latent variable has to be capable of explaining a considerable portion of the variance of each indicator – at least 50%. On the other hand, an AVE lower than 0.50 shows more error remains in the items on average compared to the variance explained by the construct (Hair Jr. et al., 2013; Hair, Ringle & Sarstedt, 2011). In relation to this, Hair et al. (2011) revealed that indicators having very low outer loading (lower than 0.40) should not be included in the scale.

The present study measured convergent validity by evaluating the indicators' outer loadings and AVE values, keeping in mind that high outer loadings on a construct, show that the related indicators have a lot in common that is encapsulated in the construct (Hair et al., 2013; Henseler et al., 2009). The results showed that the indicators outer loadings and the AVE values were in line with the threshold values of 0.40 and above in case of outer loadings and 0.50 for the values of AVE as established by Hair et al. (2011), Hair et al. (2013), and Henseler et al. (2009). The values in Table 4.17 show that the outer loadings of the indicators satisfied the threshold values of 0.40 and above. AVE values differed from 0.572 to 0.822 for the entire constructs, exceeding 0.50. Hence, it can be concluded that convergent validity is confirmed.

Table 4.17
Indicator Loadings and Average Variance Extracted (AVE)

Variable	Indicator	Loading	AVE
Entrepreneurial career option (ECO)			**0.598**
	ECO01	0.725	
	ECO10	0.831	
	ECO11	0.747	
	ECO12	0.784	
	ECO02	0.798	
	ECO03	0.778	
	ECO04	0.758	
	ECO05	0.756	
	ECO06	0.735	
	ECO07	0.812	
	ECO08	0.781	
	ECO09	0.762	
Know-How (KHOW)			**0.572**
	KHOW01	0.667	
	KHOW04	0.685	
	KHOW05	0.896	

Know-What (KWHAT)			**0.713**
	KWHAT01	0.866	
	KWHAT02	0.834	
	KWHAT03	0.884	
	KWHAT04	0.852	
	KWHAT05	0.784	
Know-Who (KWHO)			**0.807**
	KWHO01	0.757	
	KWHO02	0.962	
	KWHO05	0.962	
Know-Why (KWHY)			**0.822**
	KWHY01	0.925	
	KWHY02	0.887	
Entrepreneurial Opportunity Recognition (EOR)			**0.604**
	EOR02	0.885	
	EOR03	0.605	
	EOR04	0.828	
	EOR05	0.762	

4.6.4 Discriminant Validity

Discriminant validity is the level to which a variable differs from its counterpart variables (Byrne, 2010; Hair et al., 2010). It is the level to which a specific latent variable differs from the other latent variables (Duarte & Raposo, 2010). Therefore, a higher discriminant validity level shows that a latent variable differs from others and is successful in capturing different aspect of the phenomenon from its counterparts. The top conventional method for discriminant validity measurement was recommended by Fornell and Larcker as cited by Hair et al. (2013) and Henseler et al. (2009). Discriminant validity can be confirmed by conducting a comparison between the loadings of items on each variable (Chin, 1998).

For this study, the author measured discriminant validity by comparing the square root of AVE for every latent variable with the correlations of the other latent variables in the correlation matrix. The results obtained using the Fornell and Larcker criterion assessment with the help of the correlations and square roots of AVE of the latent constructs are listed in Table 4.18. Based on the table, the square root of AVE in bold exceeds the correlations of other latent variables in the same row and column (refer to Appendix O2).

Table 4.18
Latent Variable Correlation and Square Roots of Average Variance Extracted

Latent variable	ECO	EOR	KHOW	KWHAT	KWHO	KWHY
ECO	**0.773**					
EOR	0.499	**0.777**				
KHOW	0.275	0.292	**0.757**			
KWHAT	-0.071	0.164	0.177	**0.845**		
KWHO	0.176	0.225	0.009	0.220	**0.899**	
KWHY	0.119	0.309	0.081	0.290	0.244	**0.906**

Note: ECO = Entrepreneurial Career Option, EOR = Entrepreneurial Opportunity Recognition, KHOW = Know-How, KWHY = Know-Why, KWHAT = Know-What, KWHO = Know-Who.

Discriminant validity can be examined through the indicators outer loadings as explained by Chin (1998) and Hair et al. (2013). In particular, discriminant validity is confirmed when the outer loading of the indicator on a latent construct exceeds the cross loadings of the other latent constructs (Chin, 1998; Hair et al., 2013; Henseler et al., 2009). The non-existence of the issue of discriminant validity is confirmed in this study as the loadings exceeded the threshold value of 0.50 (see Appendix O3) and the factor loading of each indicator exceeds its cross loadings. Therefore, no issue of discriminant validity exists among the latent variables.

4.7 Confirming Second-Order Construct

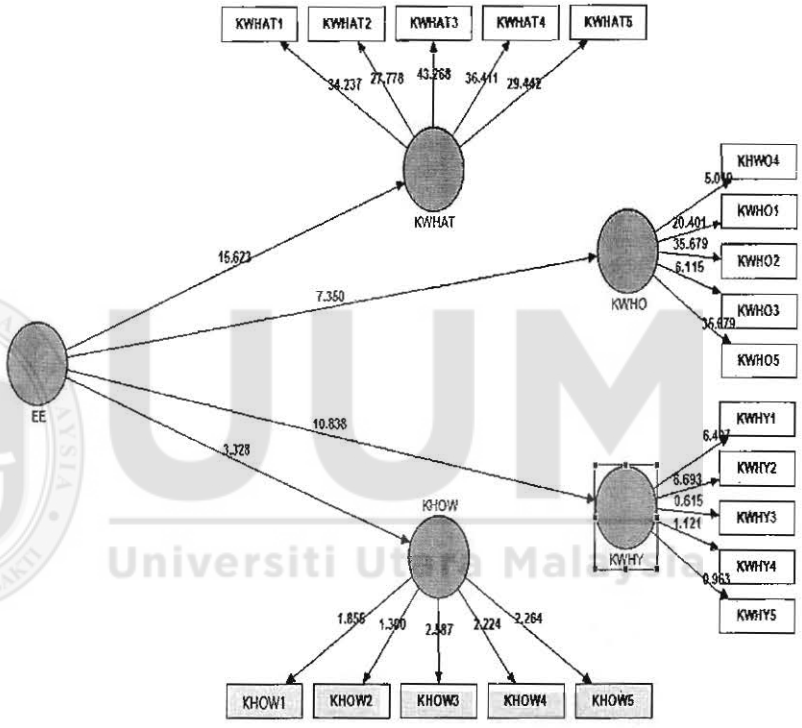

Table 4.19

Second-order Construct Confirmation

2nd-order Construct	1st-Order Construct	Beta	St. Errors	T-Value	P-Value	R^2

	KHOW	0.333966	0.10034	3.328355	0.000493	0.111534
	KWHAT	0.820542	0.05252	15.62341	0.000000	0.673289
	KWHO	0.653962	0.088975	7.349944	0.000000	0.427667
ECO	KWHY	0.556773	0.051371	10.83829	0.000000	0.309997

P <0.01

4.8 Structural Model

Following the measurement model's assessment and the confirmation of the latent variables reliability and validity, the next step is to assess the structural model (inner model). This entails the measurement of the model's predictive capabilities and abilities to measure constructs relationships, determination of the latent variables path coefficients, coefficients of determination, effect size and the predictive relevance of the model (Anderson & Gerbing, 1988; Barclay et al., 1995; Hair et al., 2010; Hair et al., 2013).

This section centers on examining the relationships among the latent variables and the analysis of the whole model. The section conducts an assessment of the path coefficient of the latent variables and testing of the hypotheses about the direct and mediating effects. The section presents the coefficient of determination (R^2), effect size and the predictive relevance of the model.

4.8.1 Results of Direct Relationship

The proposed direct relationship was tested to determine the answer to questions 1, 2 and 3. The research questions state;

1. Is there a significant relationship between entrepreneurship education (know-what, know-why, know-who and know-how) and entrepreneurial career option?

2. Is there a significant relationship between entrepreneurship education (know-what, know-why, know-who and know-how) and entrepreneurial opportunity recognition?

3. Is there a significant relationship between entrepreneurial opportunity recognition and entrepreneurial career option?

The inner model was examined by considering the direct relationship between the independent latent variables and the dependent latent variable. The PLS-SEM model analysis was used to provide extensive model results and to test the direct relationship. In particular, the size of the path coefficients of the latent variables was noted using PLS-SEM algorithm. Meanwhile, the bootstrapping technique, using Smart PLS 3.0 was used to test the relationships between independent latent variables and dependent latent variable. The applied number of cases was originally 291, with 5000 bootstrapping samples as recommended by Hair, Ringle and Sarstedt (2011), Hair et al. (2011) and Henseler et al. (2009).

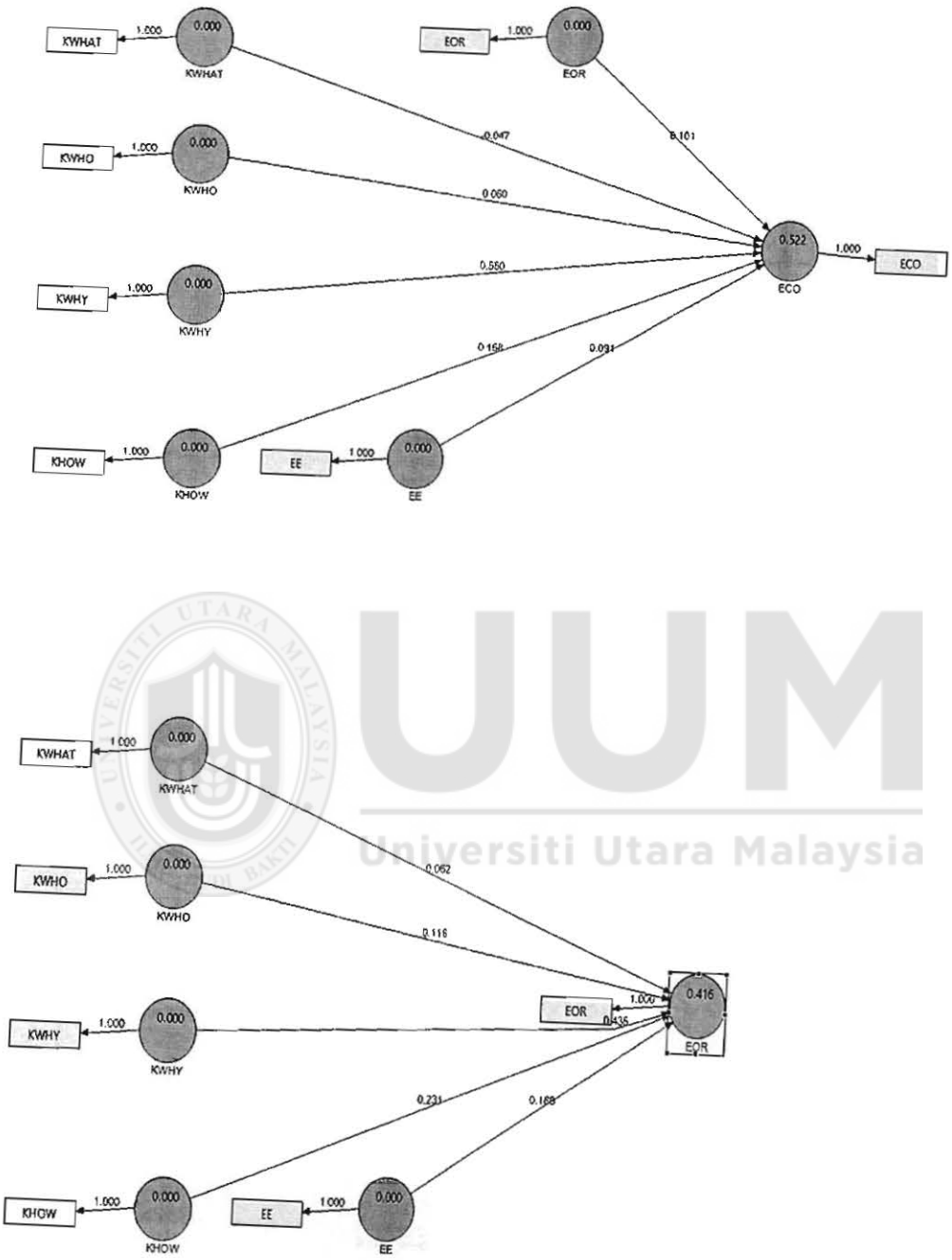

Figure 4.6
PLS-SEM Algorithm - Direct relationship

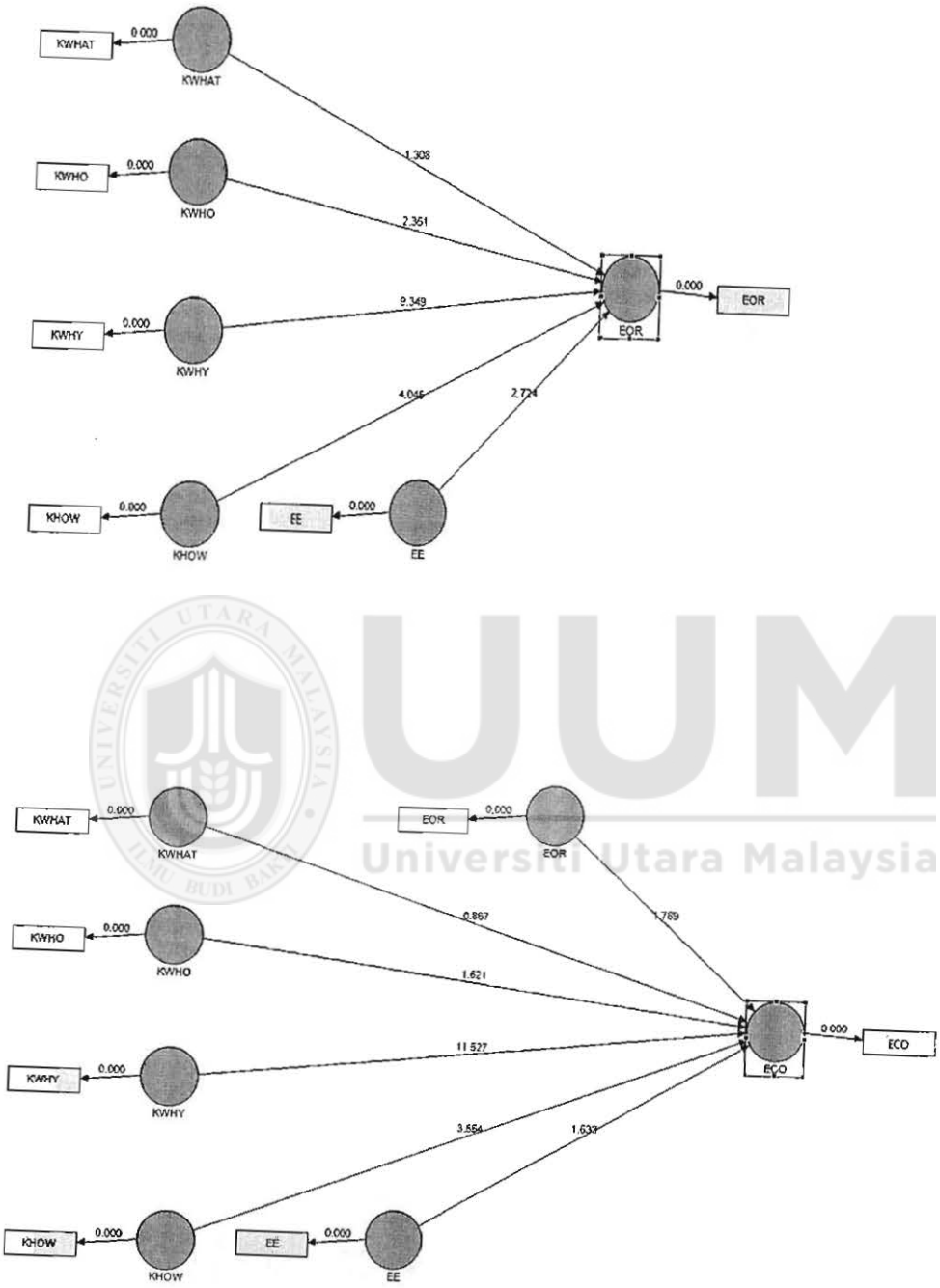

Figure 4.7
PLS-SEM Bootstrapping - Direct relationship

Figure 4.6 (see appendix P) demonstrates the output of PLS-SEM algorithm – it specifically shows the path coefficients of the independent latent variables and the dependent latent variable in that all the former latent variables positively related to the dependent latent variable, with the exception of (KWHAT->ECO), with a negative coefficient of (-0.0473). Also, the results of the bootstrapping method are presented in Figure 4.7 the figures indicate that the independent latent variables significantly related to the dependent variable at ($p<0.1$), with the exception of one variable that had no significant relationship (see Table 4.20).

Table 4.20
Results of hypotheses testing (Direct relationship)

Hypothesis	Path	Beta	Standard Error	t-statistics	p-value	Decision
H_1	EE -> ECO	0.0914	0.0589	1.5507	0.061*	Supported
H_{1a}	KWHAT-> ECO	-0.0473	0.0514	0.9220	0.1787	Not supported
H_{1b}	KWHY -> ECO	0.5499	0.0473	11.6198	0.0000***	Supported
H_{1c}	KWHO -> ECO	0.0604	0.0404	1.4942	0.0681*	Supported
H_{1d}	KHOW -> ECO	0.1581	0.0441	3.5844	0.0002***	Supported
H_2	EE -> EOR	0.169312	0.061004	2.775437	0.003***	Supported
H_{2a}	KWHAT -> EOR	0.0621	0.047667	1.302795	0.097*	Supported
H_{2b}	KWHY -> EOR	0.434503	0.044204	9.829573	0.000***	Supported
H_{2c}	KWHO -> EOR	0.118316	0.049472	2.391597	0.009***	Supported
H_{2d}	KHOW->EOR	0.230929	0.054887	4.207318	0.000***	Supported
H_3	EOR->ECO	0.1008	0.0563	1.7909	0.0372**	Supported

Note: ***Significant at 0.01 (1-tailed), **significant at 0.05 (1-tailed), *significant at 0.1 (1-tailed).
Note: ECO = Entrepreneurial Career Option, EOR = Entrepreneurial Opportunity Recognition, KHOW = Know-How, KWHY = Know-Why, KWHAT = Know-What, KWHO = Know-Who.

Table 4.20 above presented the path coefficients, t-statistics and P-value of the direct relationship between the independent latent variable and the dependent latent variable (H_1, H_{1a}, H_{1b}, H_{1c}, H_{1d}, H_2, H_{2a}, H_{2b}, H_{2c}, H_{2d} & H_3). In respect to H_1, the result suggests that there is a positive and a significant relationship between EE and ECO (ß = 0.091, t = 1.5507, p < 0.061); therefore, H_1 is hereby supported. However, the result in the table suggests H_{1a} is not supported because the result has shown no significant relationship between KWHAT and ECO (ß = -0.0473, t = 0.922, p < 0.178) hence, we do not assume that this relationship is mediated by EOR. The table also reveals that a positive and significant relationship exist between KWHY and ECO (ß = 0.549, t = 11.619, p < 0.000); therefore, supporting H_{1b}. Similarly, the result indicates that the relationship between KWHO and ECO is positive and significant (ß = 0.060, t = 1.494, p < 0.068); henceforth supporting the H_{1c}.

Furthermore, the result indicates that there is significant positive relationship between KHOW and ECO (ß = 0.1581, t = 3.584, p < 0.000); signifying support for H_{1d}. Equally, the table reveals a positive and significant link between EE and EOR (ß = 0.169, t = 2.775, p < 0.003); this indicating sustenance for H_2, and that signifying support for the hypothesis. Correspondingly, the table also presents that there is a positive and significant relationship between KWHAT and EOR (ß = 0.062, t = 1.302, p < 0.097); therefore, the H_{2a} is hereby supported. Similarly, the result also shows there is positive and significant relationship between KWHY and EOR (ß = 0.434, t = 9.829, p < 0.000); so H_{2b} is hereby supported. The table also reveals that a positive and significant relationship between KWHO and EOR (ß = 0.118, t = 2.391, p < 0.009); therefore, supporting H_{2c}. Furthermore, the result

indicates that there is significant positive relationship between KHOW and EOR (ß = 0.231, t = 4.207, p < 0.000); signifying support for H_{2d}. Equally, the table reveals a positive and significant link between EOR and ECO (ß = 0.1008, t = 1.791, p < 0.037); this indicating sustenance for H_3.

4.8.2 Mediation Test

The test of mediation provides an explanation of the indirect relationships between the independent latent variable and dependent latent variable through a mediating variable (Ramayah et al., 2011). This study conducted a mediating test to determine the answer to the fourth question of this study, which states;

4. Does entrepreneurial opportunity recognition mediate the relationship between entrepreneurship education (know-what, know-why, know-who and know-how) and entrepreneurial career option?

According to Hair et al. (2010) and Hair et al. (2012), a mediation test is conducted to determine if a mediator variable can relay the capability of the independent variable to the dependent one. Several approaches can be used to test mediation between the independent-dependent variable relationship (Hayes & Preacher, 2010) and they are; the causal steps strategy by Barron and Kenny (1986), the product of coefficient strategy or Sobel Test by Sobel (1982), and the distribution of the product strategy by MacKinnon, Lockwood and Williams (2004). Prior studies indicated that the top extensively used method for such an analysis is bootstrapping method (e.g., Hayes, 2009; Hair et al., 2010).

The bootstrapping procedure is an empirical representation of the samples distribution (Hair et al., 2010; Hair et al., 2013) and based on the noted benefits, the bootstrapping method has been recommended by studies in literature (Hayes & Preacher, 2010; Hair et al., 2013). The method measures mediation through t-value, where a t-value $\geq$ 1.96 at the level of 0.05 of significance, using two-tail test establishes mediation. On the other hand, with one-tail test, mediation is confirmed when t-value $\geq$ 1.64 at the significance level of 0.05. The present study thus employed the bootstrapping method using PLS-SEM to confirm the mediating effect between the variables.

The test began by assessing the path coefficients of the model for the direct relationships between independent and dependent variables without mediating variable, they were positive with exception KWHAT which displayed not significant, hence, we do not assume that the latter relationship is mediated through EOR. Furthermore, the path coefficients of EE, KWHAT, KWHY, KWHO and KHOW (independent variables) were found to be positive towards EOR (mediating variable) ranging from 0.062 to 0.434. The results also confirmed a positive relationship between EOR (mediating variable) and ECO (dependent variable).

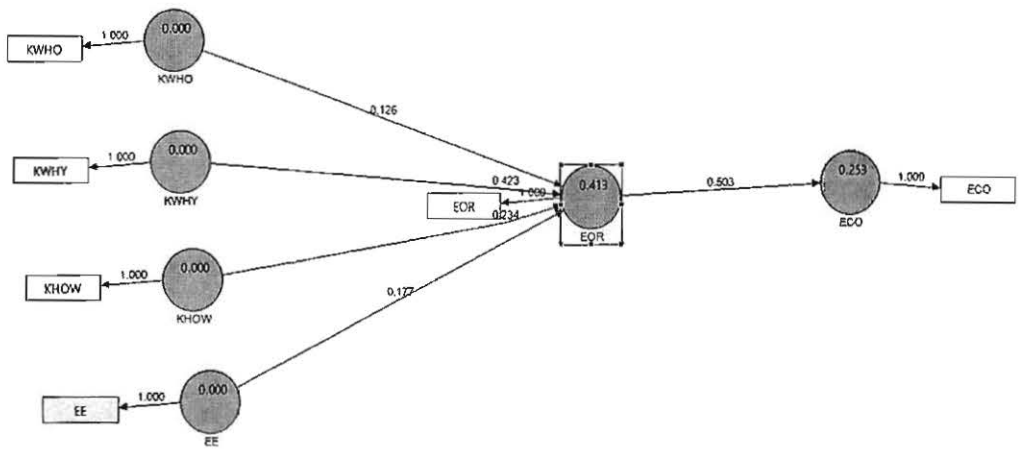

Figure 4.8
PLS-SEM Algorithm - Indirect relationship

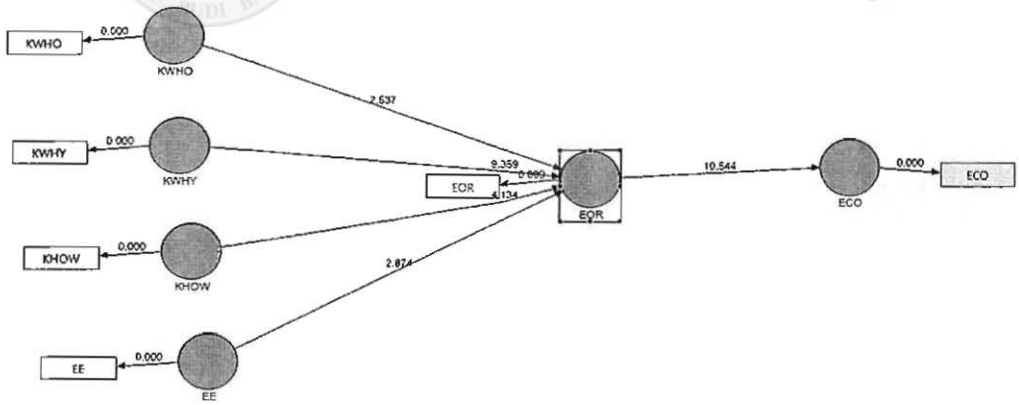

Figure 4.9
PLS-SEM Bootstrapping - Indirect relationship

In view of that, the table 4.21 presents the computed mediation results of the relationship between independent variables and the dependent variable via intervening variable. The results reveal that entrepreneurial opportunity recognition mediates the relationship between EE and ECO (ß = 0.091, t = 2.829, p < 0.002); so therefore, H_4 is thereby supported. Also, the table shows that entrepreneurial opportunity recognition mediates the relationship between KWHY and ECO (ß = 0.212, t = 6.205, p < 0.000); henceforth supporting the H_{4b}. Similarly, the result reveals that entrepreneurial opportunity recognition mediates the relationship between KWHO and ECO (ß = 0.063, t = 2.346, p < 0.010); henceforth supporting the H_{4c}. Equally, the table shows that entrepreneurial opportunity recognition mediates the relationship between KHOW and ECO (ß = 0.118, t = 3.571, p < 0.000); thus, supporting H_{4d}. However, the relationship between the KWHAT and ECO via intervening variable EOR was not supported because the direct relationship between KWHAT and ECO was not significant see table (4.20). Hence, we do not assume that the latter relationship is mediated by EOR. Therefore, the H_{4a} not supporting.

Table 4.21
Results for Mediation hypotheses

Hypothesis	Path	Beta	Standard Deviation	t-value	p-value	Decision
H_4	EE -> EOR-> ECO	0.091	0.032	2.829	0.002***	Supported
H_{4b}	KWHY -> EOR -> ECO	0.212	0.034	6.205	0.000***	Supported
H_{4c}	KWHO -> EOR-> ECO	0.063	0.027	2.346	0.010***	Supported
H_{4d}	KHOW -> EOR-> ECO	0.118	0.033	3.571	0.000***	Supported

Note: ***Significant at 0.01 (1-tailed), **significant at 0.05 (1-tailed), *significant at 0.1 (1-tailed).
Note: ECO = Entrepreneurial Career Option, EOR = Entrepreneurial Opportunity Recognition, KHOW = Know-How, KWHY = Know-Why, KWHAT = Know-What, KWHO = Know-Who.

Essentially, the study confirmed the mediating role of EOR on the relationship between EE, KWHAT, KWHY, KWHO and KHOW, and ECO. To support the mediation confirmation, the researcher proceeded with the following analysis;

The PLS path model was estimated without the mediating variable, EOR. The path coefficients significance obtained from the bootstrapping approach are tabulated in Table 4.20. The table shows significant relationships between EE, KWHY, KWHO and KHOW, and ECO, whereas the relationship between KWHAT-ECO relationship is insignificant. It cannot be assumed that the last relationship is mediated by EOR, and therefore, the analysis was centered on the relationship between EE, KWHY, KWHO and KWHO, and ECO.

The next step involves the inclusion of the mediating variable, with a focus on the indirect effect of the independent variables, through the mediating variable, on the dependent one. A required condition, although an insufficient one, is the significant of the relationships between the independent and dependent variables, where in this study represents the relationships between EE, KWHY, KWHO and KHOW and EOR, which were confirmed by the following results respectively (0.0914, 0.5499 and 0.1581), and that between EOR and ECO (0.1008) (refer to structural model results in Table 4.20).

The bootstrapping approach on an indirect effect entails the empirical approximation of the sampling distribution of the product of both paths (a and b), by taking a sample of size (n), having a replacement from the sample, and conducting an estimate of (a) and (b).

Every time a case is taken from the original sample, the case replaced into the pool, to become another potential case, with the construction of the sample size (n). Here, the estimates of a and b, are used to obtain ab* (the indirect effect in one resample size (n) obtained from the original data. The process is repetitively conducted for a total of k times (at least 1000 times). In addition, the distribution of the ab* k values is deemed to be an empirical, non-parametric approximation of the distribution of its sampling and the mean of the k estimates of ab* is useful in obtaining the point estimate of the indirect effect.

Meanwhile, its standard deviation presents the standard error of ab sampling distribution. This can be explained by the following step-wise process – the indirect effect of EE, KWHY, KWHO and KHOW is bootstrapped on ECO via EOR and the points estimate were 0.091, 0.212, 0.063 and 0.118 respectively, with a confidence interval of 95% (from 0.03-0.15, from 0.15-0.28, from 0.01-0.12, and from 0.05-0.18 respectively) (see Table 4.22). Because zero was not noted in the confidence interval, the outcome values were aligned with the assumption that EE, KWHY, KWHO and KHOW effects on ECO are indirectly and partially via EOR.

Table 4.22
Bootstrap Confidence Intervals

Hypothesis	Path	Beta	Standard Deviation	t-value	Lower Bound	Upper Bound
H_4	EE -> EOR-> ECO	0.091	0.032	2.829	**0.03**	**0.15**
H_{4b}	KWHY -> EOR -> ECO	0.212	0.034	6.205	**0.15**	**0.28**
H_{4c}	KWHO -> EOR-> ECO	0.063	0.027	2.346	**0.01**	**0.12**
H_{4d}	KHOW -> EOR-> ECO	0.118	0.033	3.571	**0.05**	**0.18**

Note: ECO = Entrepreneurial Career Option, EOR = Entrepreneurial Opportunity Recognition, KHOW = Know-How, KWHY = Know-Why, KWHAT = Know-What, KWHO = Know-Who.
Criteria: zero did not straddle between lower and upper limits (Hair et al, 2017; 2014).

Finally, the mediation strength is determined through the use of VAF (Helm, Eggert & Garnefeld, 2010). The VAF value shows the ratio of the indirect effect between independent variable and dependent variable through a mediating variable to the total effect on the direct relations (Hair et al., 2011; Hayes & Preacher, 2010).

This can be explained as follows, the EE, KWHY, KWHO and KHOW direct effects on ECO obtained the values of 0.0914, 0.5499, 0.0604 and 0.1581 respectively, whereas the indirect effect through the mediating variable (EOR) obtained the values of 0.091, 0.212, 0.063 and 0.118 respectively. Therefore, the total effects value equals to 0.1829, 0.7620, 0.1231 and 0.2758 respectively. The VAF was obtained by taking the direct effects and dividing them by the total effect, which equals to 0.50, 0.278, 0.509, and 0.427 respectively. This indicates that 50%, 27%, 50% and 42% of EE, KWHY, KWHO and KHOW's constitutes the effects on ECO respectively, as explained through the mediating variable, EOR. Because the VAFs are evidently higher than 20% but lower than 80%, there is partial mediation (Hair et al., 2014).

4.8.3 Coefficient of Determination (R^2)

Another crucial criterion in assessing the structural model in PLS-SEM analysis is the coefficient of determination of endogenous latent variables, known as R-squared (R^2) (Hair et al., 2012; Hair et al., 2013). According to studies in literature (e.g., Barclay et al., 1995; Hair et al., 2010; Elliott & Woodward, 2007), the value of R^2 represents the extent of variation in the endogenous latent variable (s) that can be characterized by one or more exogenous latent variable (s). It indicates the total variance in the construct explained in the model (Chin, 1998; Hair et al., 2013). On

the basis of Hair et al. (2010) and Hair et al.'s (2012) study, the acceptable R^2 value depends on the context of the research. Meanwhile, the R^2 value of 0.27, 0.13 and 0.02 reflects substantial, moderate and weak values respectively according to Cohen (1988). On the other hand, Falk and Miller (1992) suggested the threshold R^2 value as 0.10 (the least satisfactory level), while Chin (1998) established that the values of0.67, 0.33 and 0.19 are substantial, moderate and weak values respectively. The R^2 values of the endogenous latent variables in the study model are listed in Table 4.23.

Table 4.23
Variance Explained in the Endogenous Latent Variables

Latent Variables	Variance Explained (R^2)
Entrepreneurial opportunity recognition	0.416
Entrepreneurial career option	0.522

Table 4.23 presents that the R^2 values of four exogenous latent variables (KWHAT, KWHO, KHOW and KWHY) constitutes 42% of the variance in the mediating variable, EOR. Similarly, the holistic R^2 value (ECO) revealed that all five exogenous variables collectively combined to explain 52% of the variance in the endogenous variable. The results specifically showed that the R^2 values of endogenous latent variables are; for EOR (0.416) and for ECO (0.522) and these are acceptable values (Cohen, 1988; Falk & Miller, 1992), indicating that the model has a substantial predictive validity.

4.8.4 Assessment of Effects Sizes (f^2)

Effect size refers to the R^2 variances among the main effects in case a certain exogenous variable exists in the model, and if the variable is deleted from it (Cohen,

1988; Callaghan, Wilson, Ringle & Henseler, 2007). The f^2 is assessed as the increase in the value of the endogenous variable's R^2 to which the path is related to and relating to the proportion of the endogenous variable's unexplained variance (Chin, 1998). This study used the effect size to determine if the deleted exogenous variable significantly affected the endogenous variable present within the model as recommended by Hair et al. (2013).

The study obtained the effect size of the exogenous variables on the endogenous variables with the help of Cohen's effect size formula. According to Cohen (1988), the effect size value of 0.02 depicts a small effect size, 0.15 depicts medium effect size, while 0.35 depicts large effect size. Furthermore, Chin et al. (2003) explained that the least effect size of an exogenous variable has to be viewed to impact the endogenous variable. In this study, the exogenous variables effect size on the endogenous variables in the model was calculated using Cohen's formula below. Various researchers have made use of such assessment in the PLS analysis (Landau & Bock, 2013; Lew & Sinkovics, 2013).

$$\text{Effect size} = \frac{\textbf{R2 Included} - \textbf{R2 Excluded}}{1 - \textbf{R2 Included}}$$

The finding in table 4.24 reveals that the effect size of the particular exogenous variable on the respective endogenous variable in the model. The table also shows very small effect size of EE and EOR (f^2 =0.015, 0.013, respectively) on ECO. Meanwhile, KHOW had small effect sizes (f^2 =0.046) on ECO. KWHO and

KWHAT had not effect on ECO (f^2 =0.008, 0.004, respectively). Finally, KWHY had large effects (f^2 =0.423).

Table 4.24
Effect size (f^2) of exogenous variables on endogenous variables

Exogenous Construct	R-squared		f-squared	Effect size
	Included	Excluded		
EOR	0.522	0.516	0.013	Very Small
KWHY	0. 522	0.32	0.423	Large
KWHO	0. 522	0.518	0.008	N\A
KHOW	0. 522	0.5	0.046	Small
KWHAT	0. 522	0.52	0.004	N\A
EE	0. 522	0.515	0.015	Very Small

Note: ECO = Entrepreneurial Career Option, EOR = Entrepreneurial Opportunity Recognition, KHOW = Know-How, KWHY = Know-Why, KWHAT = Know-What, KWHO = Know-Who, EE = Entrepreneurship Education.

4.8.5 Assessment of Predictive Relevance (Q^2)

Another aspect that requires evaluation in the structural model is the model's predictive relevance that is known as Q^2 (Hair et al., 2011). In this regard, the measure utilized for assessing the predictive relevance of the model is Stone and Geisser's Q^2 test (Hair et al., 2011; Hair et al., 2013) and it assumes the efficient prediction of the model of the endogenous latent variables indicators as elaborated in previous studies (e.g., Hair et al., 2011; Henseler et al., 2009). The Stone-Geisser's test is conducted by using the formula; Q^2=1- SSE/SSO. According to Hair et al. (2011), when obtaining Q^2 through blindfolding method, the number of data cases should not take the form of multiple integer number of the omission distance 'd', otherwise errors will arise in the results. Also, the authors suggested that the value of 'd' should fall between 5 and 10, to which this study considered 7 as the d value.

Following Hair et al.'s (2011) recommendation, the model was deemed to possess predictive quality if the cross-redundancy value exceeds zero (0). The cross-validated redundancy of the endogenous variable (ECO) is displayed in Table 4.25.

Table 4.25
Construct Cross-Validated Redundancy

Total	SSO	SSE	1-SSE/SSO
ECO	291.000	145.178	0.501

Note: ECO = Entrepreneurial Career Option.

The above table displays the value for the entire endogenous latent variables and it exceeds 0 (0.501), confirming the predictive relevance of the model (Hair et al., 2013; Henseler et al., 2009).

4.8.6 Assessment of Goodness-of- Fit Index (GoF)

The GoF is a pioneering attempt to generate a global fit statistic that was not as profound as the sample size. According to Tenenhaus, Amato and Vinzi (2004), GoF is the geometric mean of average variance extracted (AVE) and the R^2 average of the endogenous variables. GoF can be calculated by using the following formula;

$Gof = \sqrt{(R^2)} \times (AVE)$

Table 4.26
Goodness of fit (R^2 and Corresponding AVEs of Endogenous Constructs)

Latent Variables	R^2	AVE
ECO	0.522	0.598
EOR	0.416	0.604
Geometric Mean	0.469	0.601
Goodness of Fit		**0.531**

Note: ECO = Entrepreneurial Career Option and EOR = Entrepreneurial opportunity Recognition.

The GoF accounts for the study model in two ways namely, through the measurement model and structural mode, focusing on the overall model performance (Chin, 2010; Henseler & Sarstedt, 2013). According to the result, GoF value of 0.531 was compared against the suggested baseline values (Wetzels, Odeleerken-Schroder & Van Oppen, 2009) of 0.1 (small), 0.25 (medium), and 0.36 (large), and it showed that the GoF measure of the model exceeded the established adequate validity of the global PLS model (see table 4.26).

4.9 Summary of the Hypotheses

The results hypotheses tested in the study were summarized and presented in table 4.27 below.

Table 4.27
Summary of the findings of the study

Hypothesis	Statement of hypothesis	Decision
H_1	There is significant relationship between EE and ECO	Supported
H_{1a}	There is significant relationship between KWHAT and ECO	Not supported
H_{1b}	There is significant relationship between KWHY and ECO	Supported
H_{1c}	There is significant relationship between KWHO and ECO	Supported
H_{1d}	There is significant relationship between KHOW and ECO	Supported
H_2	There is significant relationship between EE and EOR	Supported
H_{2a}	There is significant relationship between KWHAT and EOR	Supported
H_{2b}	There is significant relationship between KWHY and EOR	Supported
H_{2c}	There is significant relationship between KWHO and EOR	Supported
H_{2d}	There is significant relationship between KHOW and EOR	Supported
H_3	There is significant relationship between EOR and ECO	Supported
H_4	EOR mediates the relationship between EE and ECO	Supported
H_{4a}	EOR mediates the relationship between KWHAT and ECO	Not Supported
H_{4b}	EOR mediates the relationship between KWHY and ECO	supported
H_{4c}	EOR mediates the relationship between KWHO and ECO	supported
H_{4d}	EOR mediates the relationship between KHOW and ECO	supported

Note: ECO = Entrepreneurial Career Option, EOR = Entrepreneurial Opportunity Recognition, KHOW = Know-How, KWHY = Know-Why, KWHAT = Know-What, KWHO = Know-Who.

The summary of findings for hypotheses tested in the research has indicated sufficient support for most of the hypotheses of the study. The results supported fourteen out of sixteen main effects hypotheses in relationship between: (1) EE and ECO; (2) KWHY and ECO; (3) KWHO and ECO; (4) KHOW and ECO; (5) EE and EOR; (6) KWHAT and EOR; (7) KWHY and EOR; (8) KWHO and EOR; (9) KHOW and EOR; (10) EOR and ECO. However, the relationship between KWHAT and ECO; was not supported. Similarly, the results of the analysis of this study supported four out of five indirect effects that were hypothesized: (1) EOR mediates the relationship between EE and ECO; (2) EOR mediates the relationship between KWHY and ECO; (3) EOR mediates the relationship between KWHO and ECO; (4) EOR mediates the relationship between KHOW and ECO. However, the indirect effect that was hypothesized: EOR mediates the relationship between KWHAT and ECO was not supported.

4.10 Summary of the Chapter

The chapter was concerned with the statistical analysis of the quantitative data obtained from the respondents using structural survey questionnaires distributed across six universities in Palestine. The chapter presented the data collection process, data cleaning process, non-response bias and the descriptive analysis of the constructs. In addition, the chapter presented the results of the measurement model's assessment in relation to reliability and validity of the model. Furthermore, the chapter presented the results of the inner model appraisal in terms of direct relationship, mediation effects among the constructs in the model. Finally, the

chapter presented coefficient of determination (R^2), effects size (f^2), predictive relevance (Q^2) and Goodness of Fit (GoF) index of the model.

CHAPTER FIVE

DISCUSSION, RECOMMENDATION AND CONCLUSIONS

5.1 Introduction

This chapter focuses on the discussion of study findings in relation to the research objectives, study hypotheses, and relevant studies in literature. The chapter also contains implications to theory and practice of the study findings and provides the research limitations and avenues for further studies. Lastly, the conclusion of the study is included in this chapter.

5.2 Recapitulation of Research Findings

In this section, the research findings summary in conjunction with the study objectives and research questions are recapitulated. This study's main objective is to examine the mediating effect of entrepreneurial opportunity recognition on the entrepreneurship education dimensions (know-what, know-why, know-who, and know-how) and entrepreneurial career option. Accordingly, a survey was distributed to final year business students throughout six randomly chosen universities in Palestine, during which data was obtained concerning the variables. Data was utilized as the primary source of information for examining the proposed formulated hypotheses. The study model is underpinned by the Human Capital Theory (HCT), positing that human capital can be enhanced by providing education and training that is characterized by suitability and quality (Bandura, 1986; Katz, 1992; Linan, 2004).

The study research questions corresponded to four study objectives upon which four hypotheses were developed that were divided into 13 sub-hypotheses for testing. There are five independent variables, which are know-what, know-why, know-who, know-how and entrepreneurial opportunity recognition and they were proposed to positively and significantly relate to ECO. More specifically, this study proposed that know-what, know-why, know-who, and know-how relates to ECO, with entrepreneurial opportunity recognition as the mediating variable. The proposed hypotheses were statistically examined employing the PLS-SEM package (Smart PLS 3.0). The obtained findings showed empirical support for 14 hypotheses, from which ten represented main effects and the remaining four represented mediating effectives. Two hypotheses were rejected.

5.3 Discussion of Findings

This section provides and discusses the study findings on the basis of the study objectives.

5.3.1 Relationship between Entrepreneurship Education and Entrepreneurial Career Option (H_1)

The first hypothesis proposed a significant and positive relationship between entrepreneurship education (EE) and entrepreneurial career option (ECO). The result empirically supported hypothesis (H_1) and is consistent with the prior studies' findings that showed the positive influence of EE on ECO (e.g., Abdulai, 2015; Gibcus et al., 2012; Jones et al., 2011; Molaei et al., 2014; Packham et al., 2010; Rae et al., 2011; Rae & Woodier-Harris, 2013; Sanchez, 2011). The results indicated that

EE has a positive influence on the entrepreneurial career option of the students. Along the same line of results, EE has a positive influence on the students' attitude towards entrepreneurial career option in the context of Palestine.

In relation to the above, earlier studies (Engle et al., 2010; Gorman et al., 1997; Iakovleva et al., 2011; Jones et al., 2008; Lee et al., 2005) evidenced that entrepreneurial attributes can be affected via EE. This result shows that adopting acknowledging and adopting EE among Palestinian universities and institutions of higher learning could positively improve the attitudes of students towards ECO and in turn, maximizes the potential number of entrepreneurs. The result also indicates the importance of implementing an effective EE initiative that could affect the attitude of students towards ECO. This could enhance the level of entrepreneurial activities in the nation and mitigate the graduates' unemployment level.

On the whole, the result confirms and validates HCT (Bandura, 1986; Katz, 1991; Linan, 2004; Shaver & Scott, 1991) that posits human capital enhancement via suitable education and training. This calls for the investment of nations on human capital asset through the provision of education, training and development (Olaniyan & Okemakinde, 2008). Moreover, through the validation of the EE positive effect on ECO illustrates the HCT applicability in the entrepreneurship education and training field. Also, based on the result, ECO can be boosted through the provision of suitable and quality education and training in that students exposed to both are more likely to opt for entrepreneurship career compared to their counterparts that are not.

5.3.2 Relationship between Know-what and Entrepreneurial Career Option (H_{1a})

The second hypothesis also addresses the first study objective in that it proposes a positive KWHAT-ECO relationship. To reiterate, KWHAT is described as the concepts and knowledge of the entrepreneurship term – it is the content-level of knowledge regarding entrepreneurship. However, based on the result of the PLS bootstrapping displayed in Table 4.20, there is no significant relationship between the KWHAT and ECO and thus hypothesis (H_{1a}) is rejected. This result is in contrast with prior studies that evidenced a positive and significant relationship between the two (e.g., Abdulai, 2015; Gibcus et al., 2012; Hattab, 2014; Jones et al., 2011; Molaei et al., 2014; Matlay et al., 2015; Potter, 2008; Packham et al., 2010; Rae et al., 2011; Rae & Woodier-Harris, 2013; Sanchez, 2011; Wambugu, 2005). It is however consistent with studies that reported the lack of significant KWHAT-ECO relationship (e.g., Audet, 2004; El-Farra, 2015; Franco et al., 2010; Fayolle & Gailly, 2009; Tanveer et al., 2013; Olomi & Sinyamule, 2009).

In particular, El-Farra (2015) identified the characteristics of entrepreneurial knowledge that Palestinian students are exposed to in the institutions of higher learning. The study found the students towards entrepreneurship knowledge to be neutral. Similarly, arguments against KWHAT effect on the attitude of students towards ECO exist and this may be attributed to several reasons. One of the reasons is that KWHAT is a process that is action-oriented (Auken, Fry & Stephens, 2006; Bandura, 2006; Wilson et al., 2007) that is facilitated through learning as opposed to

merely paperwork tasks (Rae, 2000; Lockwood, 2006). In general, the process of teaching and learning in several less industrialized nations, like Palestine, is obtained through classes as opposed to collaborating with the relevant industries. The situation is such that there is an invisible barrier between the industries and learning institutions in certain areas.

This necessitates the adoption of action-centered pedagogy among universities to bridge the gap between theory and practice. Palestinian universities may take several advantages from adopting such an approach as it leads to developing connections with industry, via training, collaboration and commissioned studies as well as consultancy. Added to this, the educational system's curriculum requires review to shed light on the knowledge needed for entrepreneurship development, instilling entrepreneurial spirit, critical thinking and risk management skills among students. It is also pertinent for universities to introduce new local curriculum, case studies and provide role models that entrepreneurs can look up to.

Moreover, a workshop was conducted in 2015 by the Faculty of Commerce, involving a sample of business students. The students complained about the gap they experienced between theory and practice and their need for managerial competencies that significantly affected the learning process in terms of KWHAT. For example, the finding of this study indicated a negative beta value ($\beta = -0.0473$, $t = 0.922$, $p < 0.178$), which means that the student participants did not have sufficient KWHAT that could have influenced their attitude towards ECO. Also, the negative impact of entrepreneurial knowledge on the students' ECO may be attributed to the need for

enhancing their entrepreneurial knowledge. It was argued that students might have indirectly lost their interest owing to their lack of experience in practice.

Added to the above results, the Palestinian students showed the least satisfaction level with entrepreneurial knowledge in the courses offered by the university as the imparting of such knowledge was still at its infancy at the time of the study. Viewed from the perspective of human capital theory that posits the need to invest in human capital owing to its significant effect on ECO, it may be generally stated that to heighten entrepreneurial knowledge contribution, action should be taken to invest in entrepreneurial education for knowledge development. This, in turn, will lead to improved satisfaction among students, the entrepreneurial process, and ultimately have a positive impact on the students` ECO.

In an alternative explanation, the hypothesis may not have been supported because of procedural differences as explained by Abdullai (2015), Chun-Mei et al. (2011) and Nasiru et al. (2015). This is attributed to the lack of intervening variables as the hypothesis is directed towards examining a direct KWHAT-ECO relationship. However, this does not indicate the lack of importance of KWHAT in ECO.

5.3.3 Relationship between Know-why and Entrepreneurial Career Option (H_{1b})

This hypothesis also addresses the first study objective that assumes KWHY's significant and positive correlation with ECO. The empirical outcomes from PLS-SEM bootstrapping showed support for the hypothesis. KWHY is considered as motivation of sense and purpose, with the personal meaning related with work

conducted (Defillippi & Arthur, 1994) and with the question as to why entrepreneurship is studied. The result indicates that KWHY enhances the students' ability and his attitude towards entrepreneurship.

More specifically, a positive and significant relationship was found between KWHY and ECO ($\beta = 0.549$, $t = 11.619$, $p < 0.000$), which supports prior studies including, Jones et al. (2011), Solesvik (2013), Collins et al., (2004), Shane, Locke and Collins (2003), Molaei, Zali, Mobaraki and Farsi (2014), Abuzuhri & Norashidah, (2017), Kristof-Brown, Zimmerman and Johnson (2005), Baron (2012), Brice and Nelson (2008) and Zikic and Ezzedeen (2015).

In relation to the above, the students acquired KWHY competencies assist them in their evaluation of entrepreneurial profiles and development of motives and entrepreneurial career pursuits. KWHY leads to developing the intentions and motivation among students to perform entrepreneurial activities (Johannisson, 1991) and it provides the students with the sense of achievable entrepreneurship. This highlights the need for the courses to provide students with the spirit of entrepreneurship.

The Human Capital Theory is supported by the study findings in its stress on the importance of inculcating proper and quality education and training to enhance human capital (entrepreneurial motivations). The findings indicated the importance of the acquisition of entrepreneurial motivations via education to enhance them and increase their ECO level (Jones, 2011; Solesvik, 2013; Collins et al., 2004). Essentially, the tendency towards carrying out entrepreneurial activities as an

alternative to another career path is linked to incentives and motivations that can be facilitated through EE participation that directs the individual towards opting for self-employment (McMullen & Shepherd, 2006).

In the context of Palestinian universities, the entrepreneurial motivations level of the students is considered to be the present situation's stress on countering poverty and unemployment by expected rewards from the entrepreneurial career compared to employee wages (Praag & Cramer, 2001). This level requires improvement among Palestinian students and this can be realized through the provision of awareness initiatives among universities, in the government, private sector as well as NGOs.

5.3.4 Relationship between Know-who and Entrepreneurial Career Option (H_{1c})

The third hypothesis concerns the relationship between KWHO and ECO (H_{1c}) in that a significant and positive relationship was predicted between the two. On the basis of the PLS path coefficient analysis that was used for hypothesis testing, the result showed support for the relationship (ß = 0.0604, t = 1.494, p < 0.0681). Know-who refers to the learning at the social level through interaction with entrepreneurial individuals (professors/teachers, business project mentors and classmates), and developing network with the important individuals, acquiring relevant information and resources, and support towards developing entrepreneurship (Cappellen & Janssens, 2008).

The results from the empirical testing showed significant and positive KWHO-ECO relationship, which is consistent with prior studies' findings. This includes Malebana

(2016) who investigated the relationship between social interaction and ECO among final Limpopo students. The author found a positive and significant relationship between the two constructs. Along a similar line of study, Buttar (2015) looked into the social capital-entrepreneurial career intention relationship using a sample from the Turkish and Pakistani undergraduate business students. The study found a positive KWHO-ECO relationship. This was supported by Dohse and Walter (2012), Kwon and Adler (2014), Sharma (2014), Karimi et al. (2013) and Contin-Pilart and Larraza-Kintana (2015), Abuzuhri & Norashidah, (2017) who also reported the same result.

More importantly, social learning is acknowledged to be a core part of entrepreneurship learning as confirmed by experts who laid stress on the interaction with relevant individuals for successful entrepreneurship in the long-term (Honig, 2004; Raichaudhuri, 2005). Social learning in entrepreneurship education should thus direct learning towards the students' social interaction with relevant people in the entrepreneurship realm. This result supports the human capital theory in that entrepreneurship programs that contributes to know-who are linked to certain human capital that maximizes the intention towards opting for an entrepreneurial career.

The above argument can be explained by the fact that external experienced speakers can inspire students to adopt an entrepreneurial mind, suggesting that the interaction between the two groups and the observation of the students of entrepreneurial behaviours is advantageous for them to understand what and how to go about conducting the entrepreneurial activities. Similarly, the experienced entrepreneurs'

information, knowledge and opinions and their success/failed venture can provide lessons for the students on entrepreneurship.

5.3.5 Relationship between Know-how and Entrepreneurial Career Option (H_{1d})

In the fifth hypothesis, the significant and positive relationship between KHOW and ECO was proposed (H_{1d}). KHOW refers to the methods, skills and abilities required to perform entrepreneurial behaviours. The empirical findings from this study showed support for the hypothesis ($\beta = 0.1581$, $t = 3.584$, $p < 0.000$) – a result that is aligned with the prior findings reported by Abdulai (2015), Ammal and Mathi (2014), Schaufeli and Bakker (2010), Block et al. (2011), Dickson et al. (2008), Fayalle et al. (2006), Giacomin et al. (2011), Hattab (2014), Marina et al. (2013), Molaei et al. (2014), Rae and Woodier-Harris (2013) and Schwarz et al. (2009).

In particular, students that took part in acquiring entrepreneurial skills showed higher capability to perform entrepreneurial tasks successfully and these include identifying new business opportunities, new products and creative thinking compared to their non-participating counterparts. In relation to the human capital theory, the individual's skills enhance his cognitive abilities and lead to higher efficiency and productivity in doing activities (Becker, 1964) and thus, it can be stated that KHOW supports human capital theory and it can be obtained through education. KHOW learning necessitates the students' development and enhancement of their entrepreneurial skills and abilities to perform related activities. Such abilities and

skills would facilitate the students' perception of a higher degree of control over the activities and as a result point them towards start-ups.

In line with the above, the positive and significant KHOW-ECO relationship validates that entrepreneurship skills are affected by several factors (e.g., demographic characteristics, education level, etc.) and traits that may have been passed on through genes (e.g., innovation and creativity). As such acquiring such skills in universities and higher institutions of learning could enhance the attitudes of students towards ECO and in turn, heighten the number of potential entrepreneurs in Palestine.

5.3.6 Relationship between Entrepreneurship Education and Entrepreneurial Opportunity Recognition (H_2)

The second study objective was addressed in the sixth proposed hypothesis (H_2), proposing the significant influence of EE on EOR, which was duly tested through empirical means. Accordingly, the results obtained from the PLS-SEM bootstrapping, EE had a positive relationship with EOR, supporting the proposed hypothesis. Literature shows that entrepreneurial opportunity recognition is a distinct capability that is not confined to only certain individuals and such recognition can be improved through learning and experience (Shane, 2000).

Literature also states that entrepreneurial opportunity recognition can be learned and enhanced through education (e.g., Valliere, 2013; Tang et al., 2012) and thus entrepreneurship education plays a key role in such enhancement (Chang et al., 2014). The study results supported the hypothesis ($\beta = 0.169$, $t = 2.775$, $p < 0.003$)

and prior findings (e.g., Hajizadeh, 2016; Lim & Xavier, 2015; Chang et al., 2014; DeTienne & Chandler, 2004; Solesvik et al., 2013; Westhead et al., 2011).

It is noteworthy that entrepreneurial opportunity refers to the circumstances in which new goods, service, raw materials, markets and organization methods can be introduced and sold at a higher price relative to the cost of production (Shane & Venkataraman, 2000). In this sense, the pedagogy of entrepreneurship directed towards facilitating entrepreneurial careers should lay emphasis on enhancing the perspective and cognitive process of the concept, including opportunity recognition (Sardeshmukh & Smith-Nelson, 2011). In this regard, the human capital theory proposes that the knowledge and skills of the individual work towards boosting his cognitive abilities and ultimately lead to efficient and productive potential activity (Becker, 1964). In other words, individuals having high human capital are more capable of identifying opportunities.

The study finding also imply that education on entrepreneurship allows the students to recognize entrepreneurial opportunity through their learning experience and new knowledge acquisition and thus, this adds to their ability to discern opportunities, creativity and commercialization of new ideas in business. Viewed from this perspective, EE is a relevant construct in enhancing and maintaining the self-confidence of an individual to succeed in conducting entrepreneurial tasks and opt for an entrepreneurial career.

In the context of the Palestinian education system, it is crucial that it adopts teaching and learning methodologies that positively affect the EOR of students to maximize

their self-confidence in successfully carrying out entrepreneurial tasks and for ECO. This finding highlights the effect of an effective entrepreneurial education (know-what, know-why, know-who and know-how) and its significance in the development of entrepreneurial opportunity recognition. Lack of such recognition could minimize the opportunity to develop the students' entrepreneurial career intention.

5.3.7 Relationship between Know-what and Entrepreneurial Opportunity Recognition (H_{2a})

Under this proposed hypothesis, this study tested the KWHAT-EOR significant relationship (H_{2a}) and on the basis of the obtained results of the PLS path coefficient analysis, a trivial significant and positive relationship exists between the two constructs ($\beta = 0.0621$, $t = 1.302$, $p < 0.097$). However, this does not mean that KWHAT is not important for EOR as the students who took part in acquiring were more capable of successfully performing entrepreneurial tasks like identifying new business opportunities and creative thinking) over their non-participating counterparts. Despite the trivial relationship, the hypothesis is supported. This implies that acquired KWHAT could contribute to the EOR level among students and that in education initiatives, KWHAT is crucial to develop the entrepreneurial opportunity skills among students.

This result supports prior studies that revealed a significant relationship between KWHAT and EOR like Hajizadeh and Zali (2016), who looked into the relationship of prior knowledge, entrepreneurial learning with EOR. They found a direct and positive relationship between entrepreneurial knowledge and EOR. Also, Lim and

Xavier (2015) examined prior knowledge and education influence on opportunity recognition and revealed that high degrees of both are linked with higher opportunities for recognition.

Literature reviewed also showed that the opportunity recognition development forms a key part of entrepreneurship and thus, entrepreneurship knowledge has to facilitate such capability. According Shepherd and De Tienne (2005), there is a positive relationship between entrepreneurial knowledge and entrepreneurial opportunity identification. This was supported by Mejri and Umemoto (2010) who found entrepreneurial knowledge to influence recognition of opportunities.

Moving on to the result's connection with the Human Capital Theory, it supports the theory in that the latter stresses on the importance of providing suitable and quality education to boost human capital (e.g., entrepreneurial opportunity recognition) as demonstrated in literature (e.g., Shane & Venkataraman, 2000; Haynie, Shepherd & McMullen, 2009). Knowledge acquisition through education and experience can enhance the individual's entrepreneurial opportunity and generally speaking, literature evidences the relationship between human capital and education, skills and knowledge of entrepreneurial recognition and success (Unger et al., 2011).

5.3.8 Relationship between Know-why and Entrepreneurial Opportunity Recognition (H_{2b})

Under this sub-section, the proposed relationship between KWHY and EOR and the result obtained are discussed. KWHY is the understanding of the values and motives of entrepreneurship (Johannisson, 1991). Know-why furnishes the reason behind

why entrepreneurial knowledge, skills, experience and ability benefit the career of the student and boost his competencies (e.g., entrepreneurial opportunity recognition). In other words, learning know-why via education provides the student with the perception of achievable entrepreneurship challenge. As a consequence, the result supports the proposed study hypothesis (H_{2b}) that assumes a positive and significant KWHY-EOR relationship ($\beta = 0.434$, $t = 9.829$, $p < 0.000$).

This empirical finding supports those reported by prior studies of the same calibre. Specifically, in Yitshaki and Kropp (2016), the authors tested the relationship between motivation and opportunity recognition through empirical tests and found a positive relationship. Also, Holland and Garrett (2013) focused on the relationship between expectancy level and value in pursuit of entrepreneurial opportunity. They found a significant and positive relationship between the two constructs and concluded that a greater relative expectancy level of acquiring financial returns and non-financial advantages from a novel business opportunity has a positive relationship to the potential opportunity pursuit. This finding also supports those reported by Carsrud and Brannback (2011), Corner and Ho (2010), Abuzuhri & Hashim (2017), and Shane and Venkataraman (2000).

In the case of Palestinian students, there is a high level of motivation noted and this may be attributed to several reasons that explain the obtained finding. The first reason lies in the Palestinian situation, where a high rate of unemployment and limitation of job opportunities abound in the public sector. In acceptance of this fact, the students are motivated to recognize entrepreneurial opportunities for earning

money, increasing income and job creation for themselves, their personal satisfaction and growth, as well as their job security.

The empirical result obtained generally shows support for the human capital theory that posits the need for acquisition of education to assist human capital in gathering new knowledge and capabilities with which entrepreneurial opportunities can be recognized. In other words, the students through the entrepreneurship education program can raise their ability to identify entrepreneurial opportunity, and in turn, enhance their intentions towards an entrepreneurial career compared to their peers.

5.3.9 Relationship between Know-who and Entrepreneurial Opportunity Recognition (H_{2c})

The second objective of this study was addressed by hypothesis (H_{2c}), which was duly empirically tested. The hypothesis proposed a significant and positive KWHO-EOR relationship and it was tested using PLS-SEM bootstrapping. The result in Figure 4.20 shows support for the hypothesis ($\beta = 0.118$, $t = 2.391$, $p < 0.009$). Stated clearly, the acquisition of social interaction and entrepreneurship references among Palestinian final undergraduate students in universities heightens their entrepreneurial opportunity recognition.

Similar results were found in prior studies starting with Nikraftar, Hosseini and Laesser (2016), who illustrated through their findings the importance of networks creation and information acquisition from others in stimulating creative thinking of opportunities. Also, Lim and Xavier (2015) focused on the effect of social network upon recognizing opportunities and found a positive relationship between them.

Meanwhile, the impact of social networks on recognition of entrepreneurial opportunity was also explored by Nikraftar et al. (2016) – the study also found a positive and significant relationship between the two.

Added to the above discussed studies and their results, Esfandabadi et al. (2016) examined the social capital impact on recognizing entrepreneurial opportunity and revealed a direct and linear relation between social network and such recognition. The same relationship was found by Mohebi and Rabiee (2014) in their study involving a population sample of 60 directors of technology park companies. The study utilized questionnaire distributed through census method for data collection and found a positive impact from social capital to opportunities recognition.

This result highlights the role of entrepreneurship educators in enhancing entrepreneurial knowledge among students by inviting actual entrepreneurs to speak in their classrooms and by designing educational curricula that can benefit the students in their interaction with relevant individuals, supported by network with businesses (e.g., NGOs, incubators, industry associations, alumni associations, online social networking like Facebook, LinkedIn, friends, suppliers and distributors). This could facilitate the students' recognition of entrepreneurial opportunities.

The finding implies that investing in human capital via entrepreneurial education can enhance the capability of recognize opportunities and lead to higher number of potential entrepreneurs among students as most of them will have a tendency towards ECO. Human capital may also contribute to the value of recognizing and

leveraging opportunity after which larger opportunities can be recognized over individuals lacking human capital.

5.3.10 Relationship between Know-how and Entrepreneurial Opportunity Recognition (H_{2d})

This study proposed a positive and significant relationship between know-how and entrepreneurial opportunity recognition (H_{2d}). According to the PLS path coefficient analysis result, the hypothesis is supported ($\beta = 0.230$, $t = 4.207$, $p < 0.000$). This shows that KHOW contributes to the attractiveness of students towards recognizing entrepreneurial activity and that students participating in KHOW displayed greater individual affection towards such recognition as evidenced in literature (Karimi et al., 2016; George et al., 2016; Garg and Matshediso, 2011).

This result is consistent with prior studies' findings about the positive and significant KHOW-EOR relationship. To begin with, Gielnik et al. (2012) examine the influence of creativity in the opportunity identification process using an interactionist method. They attempted to provide insight into the interplay of creativity with different processes of information and found positive effects of creativity on recognizing opportunities. Similarly, in Great Britain's Department of Business, Innovation & Skills (2015), entrepreneurship skills are deemed to be related with the competency in opportunities identification or creation and their development and leverage coupled with different skills linked with business plans for realization of the plans.

Additionally, literature on the topic was reviewed in George et al.'s (2016) study to provide more information on the opportunity recognition development and its significant drivers. A total of 180 articles were analysed and the authors categorized the contributions of the studies into six factors (cognition/personality traits). According to their findings, some of the perspectives as to how entrepreneurs can improve their thinking and inner power are covered under a concept known as design thinking. It is a method to recognize opportunity and contribute to entrepreneurial skills and new ideas recognition (Hnatek, 2015). Along a similar line of result, a positive creativity-opportunity identification was evidenced by DeTienne and Chandler (2004).

In relation with the human capital theory, the theory posits that entrepreneurship education programs significant relate to human capital assets like entrepreneurship skills and positively relate to the abilities of entrepreneurial opportunity recognition (Martin et al., 2013). Enhancing entrepreneurship mind-sets via education could equip students with creative skills, management skills and self-confidence in undertaking entrepreneurial opportunity recognition.

5.3.11 Relationship between Entrepreneurial Opportunity Recognition and Entrepreneurial Career (H_3)

The third study objective entailed examining the relationship between EOR and ECO among the Palestinian final undergraduate students in conjunction with the proposed eleventh hypothesis (H_3). Specifically, it was hypothesized that a positive and significant relationship exists between EOR and ECO, where EOR refers to the

ability to recognize a new idea and transform it into business conceptualizations to contribute value and revenue. As proposed, this study supported the hypothesis empirically as a positive and significant EOR-ECO result was obtained (ß = 0.1008, t = 1.790, p < 0.037). This corresponds with the findings of past studies indicating the same result such as Herath (2014), Abdul and Yusop (2009), Gielnik et al. (2015), Ucbasaran et al. (2008) and Wang et al. (2013).

Other studies in literature also reported the same result indicating that EOR promotes positive attitude towards entrepreneurial career in lieu of university students following another career line. For example, Geissler and Zanger (2010) used 271 German universities students to examine the relationship and found it to be positive and significant. Also, Hou (2008) found that strong opportunity identification skills lead to entrepreneurial behaviour and the development of new venture start-up. In contrast, the lack of opportunity recognition skill could minimize the potential to form entrepreneurial career intention of students.

Along the same line of explanation, acquisition of EOR has a positive influence on the student's personal attractiveness towards entrepreneurship as a career option. With EOR inculcated in universities, the level of the students' attraction towards entrepreneurship will increase in that an entrepreneurial career would appear more attractive to more number of students as a career option (Rae et al., 2011; Xavier et al., 2009).

In view of the human capital theory, Solesvik et al. (2013) reached to the conclusion that students that acquired greater degrees of entrepreneurial opportunity displayed

higher intentions towards adopting an entrepreneurial career. Stated clearly, the theory posits that human capital such as entrepreneurial opportunity recognition plays a key role in improving entrepreneurial capital.

Human capital refers to a collection of traits (knowledge, talents, skills, abilities and experience) experienced by an individual through education. They encapsulate the students' capacity to achieve goals and as such, it can be stated that entrepreneurial opportunity recognition is composed of knowledge and abilities that are invaluable in achieving goals and opting for an entrepreneurial career.

5.3.12 Mediating Effect of Entrepreneurial Opportunity Recognition on the Relationship between Entrepreneurship Education and Entrepreneurial Career Option

In the fourth study objective, the mediating role of entrepreneurial opportunity recognition on the EE (know-what, know-why, know-who and know-how)- ECO relationship was examined in the context of Palestinian universities. Accordingly, five hypotheses were formulated (H_4, H_{4a}, H_{4b}, H_{4c} and H_{4d}). All the hypotheses supported except one (H_{4a}) in relation to the mediating role of entrepreneurial opportunity recognition on positive relationship between EE, KWHY, KWHO, KHOW and ECO were found to be significant.

This finding may be attributed to the fact that almost all the students in the Palestinian universities have motivations, skills (alertness, self-efficacy) and social networks to assist in their opportunity recognition process. Despite the challenging conditions faced, the entrepreneurship level is high and entrepreneurs are capable of

exploiting such conditions, enabling the transformation of the circumstances for the better. Based on this point of view, opportunity lies in the mind-set of the individual.

For further explanation, (H_4) hypothesized that entrepreneurial opportunity recognition has a positive mediating role on the EE-ECO relationship to answer the corresponding research question. PLS-SEM bootstrapping method was utilized to test this relationship as recommended by Hair et al. (2010) and Preacher and Hayes (2008). To test this relationship, it is pertinent to establish the relationship between the independent latent variable and the mediating variable and that of the mediating variable and the dependent latent variable for the mediating effect to exist (Hayes, 2009; Hair et al., 2010; Preacher & Hayes, 2008). In other words, the mediating effect is considered to exist when the predictor variable affects the dependent variable via the mediating one (Baron & Kenny, 1986).

Based on the study findings, a positive and significant relationship was empirically found between EE and EOR, and between EOR and ECO. The empirical results also indicated the mediating role of EOR on the relationship between EE, KWHY, KWHO and KHOW, and ECO at ($\beta = 0.091$, $t = 2.829$, $p < 0.002$), ($\beta = 0.212$, $t = 6.205$, $p < 0.000$), ($\beta = 0.063$, $t = 2.346$, $p < 0.010$), and ($\beta = 0.118$, $t = 3.571$, $p < 0.000$) respectively, indicating support for hypotheses H_4, H_{4b}, H_{4c} and H_{4d}.

The findings were evidenced by other studies in prior literature that indicated EOR influence over EE-ECO relationship including, Niammuad et al. (2014), Wei and Hisrich (2016), Sambasivan and Yusop (2009), Dahalan et al. (2015), Camelo-Ordaz et al. (2016) and Razak et al. (2011), Abuzuhri & Hashim, (2017).

The result shows the influence of EOR on students' EE, making them have a higher tendency towards ECO. Students having higher ECO will possess greater positive attitude towards EE and as such, it is imperative to recognize the EOR role in enhancing the attitude among students towards ECO. It is pertinent for teachers to adapt teaching methodologies and instructional techniques that cater to the formation of EOR of students as this would in turn affect their attitude towards ECO. The finding shows that students possessing greater EOR have a higher tendency to undertake start-ups in business compared to their counterparts with lower EOR. Universities and stakeholders should thus develop and implement activities that work towards promoting EOR among students to prompt their ECO assertiveness.

On the whole, this result evidenced the interrelationship between EE, EOR and ECO and specifically, it highlighted that EOR is a learned ability that can be acquired through EE, which in turn, affect ECO.

Viewed from the human capital theory, it can be stated that through EE, certain human capital like EOR can be created and honed, after which this affects the individuals' entrepreneurial career intention as explained in Martin et al. (2013) and Solesvik et al. (2013).

Finally, this result may also be attributed to the Palestinian EE that is centered on both theory and practice in using know-why, know-who and know-how components, which positively influences the development of information gathering, association and transformation among students. Ultimately, this would improve their ECO that would support the students' potential and inclination to undertake business start-ups.

5.4 Implications of the Study

The results of this study may have implication for the students who want to choose entrepreneurship as a career option, educators who teach and design entrepreneurship course, management of universities who want to use entrepreneurship education as key component of study programs and policymakers for developing guidelines on entrepreneurship. The findings of this study may contribute to the research on entrepreneurship education and career option for enhancing the knowledge by taking entrepreneurial opportunity recognition as a mediator. The study may contribute to human capital theory literature by suggesting that investment in human capital for developing specific assets such as entrepreneurial opportunity recognition resulted in development of entrepreneurial capital. This model explains how entrepreneurial opportunity recognition enhanced by entrepreneurship education influence the entrepreneurial career option.

5.4.1 Theoretical Implications

This study primarily aimed to empirically examine the mediating role of EOR on the EE-ECO relationship and accordingly, it developed a model that related EE (KWHAT, KWHY, KWHO and KHOW) to ECO in Palestinian universities. Empirical evidence was provided for the development of theoretical relationships in the framework.

Therefore, the combination of EE (KWHAT, KWHY, KWHO, KHOW), EOR and ECO in one model is a theoretical contribution that received little attention from prior studies. On the basis of the above, the structural association between the study

variables was examined in a single model, after which the results supported majority of the hypothesis. An unexpected result came from the lack of significant impact of KWHAT on ECO.

On the whole, the study contributes to literature on the importance of EE, KWHY, KWHO, KHOW and EOR as ECO antecedents. Empirically, the study framework was supported and HCT is supported as an underpinning theory. The findings were in line with the theory, indicating that skills and knowledge needed by the individual stem from investment in human capital of education and experience.

Several studies have indicated EE should be inculcated to students in the institutions of higher learning as this influences the students' entrepreneurial career and direct attitudes and perceptions of EOR (Krueger, Reilly & Carsrud, 2000; Karimi et al., 2010). The study also contributes to literature as it investigated the relationship between the study variables demonstrating their significance. The study findings support the theories that propose the antecedent of entrepreneurial behaviour like Linan's entrepreneurial intention model by Linan, (2004), entrepreneurial even theory by Shapero and Sokol (1982) and the relevant literature on the subject.

The study also examined the mediating role of EOR (skills and competency) between the relationship of EE and ECO and thus minimizing the gap in theory. This relationship is in need of examination as evidenced by Bae et al. (2014).

Moreover, this study also contributes to theory by empirically examining the mediating role of EOR on the EE-ECO relationship, with the results supporting the role. This shows that the preference of entrepreneurial career among students can be

improved through enhanced EOR (training and learning). EOR can be considered as the medium through which EE can enhance the students' preference of entrepreneurial career. The mediating effect results also showed support to the human capital theory signifying that investment in human capital through EE can develop certain human capital assets such as EOR and in turn, this develops entrepreneurial capital.

Finally, the reviewed literature concerning the entrepreneurial career topic revealed that majority of the studies were carried out in the west, particularly in the U.S. (e.g., Austin & Nauta, 2016; Block et al., 2011; Damaraju et al., 2010; Decker et al., 2012), European countries (e.g., Beynon et al., 2014; Fenton & Barry, 2014; Jones et al., 2011; Marina et al., 2013; Rae et al., 2013), the Latin American countries (e.g., Jose Luis, 2011; St-Jean & Mathieu, 2015) and in Asian countries (e.g., Sharma & Madan, 2014; Mohd et al., 2014; Nordin et al., 2015). The context of Arab countries, specifically Palestine, where a considerable proportion of the population are poor and less developed, has largely been ignored. Hence, through this study of Palestine, the understanding of the entrepreneurial career preference is enhanced – this could also be applied in other developing nations.

5.4.2 Practical Implications

In the past several years, entrepreneurial career is a topic that has garnered increasing attention as a top economic factor for the creation of job opportunities, economic growth, creation of wealth, mitigation of poverty and positive social progress. In relation to this, the entrepreneurial awareness development and boost in

positive attitude towards adopting an entrepreneurial career among the majority has been the top agenda in many countries (OECD, 2010). Additionally, the EE importance in promoting such career type has been extensively acknowledged in literature (e.g., Ethugala, 2011; Kelley et al., 2012). On the basis of the reviewed literature, there is lack of entrepreneurial opportunity recognition and the presence of minimal tendency towards adopting entrepreneurship as a career in the Palestinian context.

Therefore, this study aimed to provide insight into the antecedents of entrepreneurial career preference among Palestinian students that necessitated the development of a model within which EE and entrepreneurial behaviour were considered. The model is capable of explaining future entrepreneurial career preference via career cognitive process as explained in Lent et al. (1994) and Linan (2004) and in expounding on the effect of EE on entrepreneurial career via the attitudes of student towards entrepreneurial career. This calls for educators, curriculum developers, university authorities, policy makers and other relevant stakeholders to recognize and acknowledge the importance of EOR. In the context of Palestine, EE is a newly adopted program in the educational curricula and as such, its effectiveness needs to be assessed. The findings of this study are expected to assist in implementing necessary changes to enhance the program and make it suitable to the nation's specific needs.

The study evidenced the positive relationship between entrepreneurial skills, motivations and social interactions, and entrepreneurial career option, indicating that

former three can be inculcated among university students in Palestine to enhance their attitude towards entrepreneurial career and to increase the number of potential entrepreneurs in the country. As a consequence, educators are encouraged to conduct an identification and implementation of EE modules that generate the desired outcomes.

On the other hand, the relationship between entrepreneurial knowledge and entrepreneurial career option lacked significance as evidenced by the findings. This shows that the modules of entrepreneurial knowledge taught in the universities in Palestine fail to boost the entrepreneurial career preference of students. This calls for educators and developers of curricula to conduct a reassessment of such modules to identify the issues contained within and to make sure that they achieve the expected outcome. Entrepreneurial knowledge has to be practically taught in the universities.

Empirically, this study found entrepreneurial opportunity recognition to positively and significantly relate with entrepreneurial career option, implying that the higher the EOR of students, the greater will be their entrepreneurial career preference. Stated clearly, increase in the student's entrepreneurial opportunity recognition can lead to increased potential for entrepreneurial career preference – this holds true for the other way around. Similarly, the study results also showed that EOR has a mediating role between the relationship of EE and ECO, specifically KWHY, KWHO and KHOW, indicating its role as a medium through which the EE dimensions can be transformed into entrepreneurial career preference. This study therefore recommends that educators and curriculum developers develop modules

that cater to enhancing the EOR among students as this can enhance their entrepreneurial career preference. The findings further provide insight into the advantages that EE can bring in terms of EOR and preference for entrepreneurial career among students.

On the whole, the findings indicate that entrepreneurial motivations, social interactions and skills inculcated to students in Palestinian universities can positively impact the students' leanings and attitudes towards preferring entrepreneurship as a career. The study model evidences the positive relationship between entrepreneurial career option and entrepreneurial opportunity recognition measurements. The latter was found to be affected by entrepreneurial motivations, social interactions and skills that Palestinian universities teach to their students. In contrast, entrepreneurial knowledge was found to exert little control to the factors that drive the development of entrepreneurial career option.

Furthermore, this study results propose that the supply and quality of entrepreneurs can be increased by manipulating external environment. This could be done by encouraging more people to gain access to entrepreneurial education in Palestinian universities that foster an entrepreneurial mind set and mobilization of resources required for a career in entrepreneurship. Furthermore, the results of this study may also encourage the policy makers to consider entrepreneurship education as a core component of national education policy in Palestine.

Moreover, the findings of this study proposed for designing and delivering an effective entrepreneurship course in Palestinian universities by entrepreneurship

educators which develops opportunity recognition skills among Palestinian students. Therefore, this study suggests entrepreneurship education, entrepreneurial opportunity recognition and entrepreneurial career option (EERC) model approach for entrepreneurship education in Palestinian universities. At this point, the question that has to be addressed is how to inculcate entrepreneurship through programs teaching contents and methods, some authors recommending its stress on theories and principles regarding the concept (Fiet, 2001), other authors contended that the teaching should focus on practical activities (Piperopoulos & Dimov, 2015).

Therefore, this study suggested the entrepreneurship education, opportunity recognition and career option model which consider both aspects. As shown in the conceptual model (figure 2.1), the model consists of (know-what, know-why, know-who, and know-how) components which are used for imparting practical and theoretical education of entrepreneurship (Lo, 2011). Therefore, the model can be helpful and useful for curriculum teaching and design of entrepreneurship in the Palestinian universities.

As the result, this study suggested the following steps to be taken by the universities in order to embed the EE and EOR into the program curriculum:

- The model can be introduced to all programs (for non-business school students) at the universities at Palestine (Gaza Strip and West Bank) in order to develop their entrepreneurial awareness and entrepreneurship.

- The study proposed a skill-building subjects in the program curriculum of entrepreneurship such as creative thinking, technological innovation, leadership, negotiations, risk sharing that cannot be taught in traditional method. Moreover, the program curriculum shall include innovation and participation of social club activities, inculcate innovative thinking and the abilities to carry or sharing the risks in order to be ready prepared to the workplace.

- The experiential component (practical activities) of the program curriculum of entrepreneurship education on developing opportunity recognition therefore needs to include more 'substantial hands-on experience working with community ventures'. Such an experiential component, while engaging with community entrepreneurs, guest lectures by entrepreneurs, mentoring by local entrepreneurs and live case studies.

- Maybe the working within the industry of choice for a period of time, assist students who have not been exposed to entrepreneurial learning or environments, perhaps in the context of an internship. Such structured work-integrated learning programs have many positives related to entrepreneurial career development, and also, such structured work-integrated learning and experiential components can help enhance opportunity recognition ability for universities students.

- Entrepreneurial experiences should be converted into education materials in order to develop courses in Palestine for the links between theories and practices.

5.5 Limitations and Future Research Directions

The theoretical and practical contributions of this study were provided in the prior sub-sections highlighting the effects of EE on ECO. However, regardless of such contributions, with a study of this nature (behavioural study), several limitations can be highlighted to recommend avenues for future studies. Some of the limitations are discussed as follows;

First, the study used cross section data to examine the effect of EE on EOR and the entrepreneurial career preference of students but not their actual entrepreneurial career behaviour. Despite the establishment of the relationship between behavioural intention and successful behavioural action by Ajzen (1991) in theory, and by Bird (1988), Kolvereid (2006) and Shook et al. (2003) in practice, future studies need to conduct a longitudinal version of data collection over a long period following the graduation of students in order to clarify the impact of the course on their actual entrepreneurial behaviour.

Second, this study used self-reporting method to gather survey data from the study sample. Structured questionnaires were distributed to collect the opinions of respondents on the association between entrepreneurial knowledge, motivations, social interactions, skills, entrepreneurial opportunity recognition and entrepreneurial career option. These opinions may be deemed as perceptions of the study variables as in prior studies (Bernhofer & Li, 2014; Giacomin et al. (2011), Jones et al. (2008), Molaei et al. (2014) and Setiawan (2014) but future researches are recommended to use other data collection methods to obtain actual learning outcomes (e.g., students'

performance test, written test, interviews, and other learning assessments) in order to analyse the relationships thoroughly.

Third, the study participants comprised of universities' students in Palestine in their final year. This shows that the study findings may not be generalizable to students in all years of study and subjects. The fourth limitation lies in the same line in that the sample comprised of universities' students, which may differ from working adults and unemployed adults – this should be considered when generalizing the results.

The fifth limitation is related to the partial mediation of EOR on the relationship between EE and ECO indicating other factors that have the potential to have a mediating role on the same. Lastly, a quantitative research design was adopted in this study, a design that refers to a non-experimental design and thus the positions of the respondents prior to the study were undetermined. Future studies should keep this in mind and use a quasi-experimental research design to determine the respondents' positions pre-and post-treatment. A comparative study may also be conducted between developing countries that launched or have launched EE in their educational system to allow insight into the EE stages within individual countries and to highlight strengths and weaknesses of such implementation.

5.6 Conclusion

This research addressed the literature gap by empirically providing evidence on the relationship between EE, EOR and ECO in the context of Palestinian university students. It primarily aimed to examine the EOR mediating role on the EE (KWHAT, KWHY, KWHO and KHOW)-ECO relationship. Four objectives were

listed and the proposed hypothesis stemming from the objectives were tested through empirical means in the fourth and the fifth chapter respectively. The achievement of the four objectives leads to the following conclusions objective-wise.

In the first objective, the relationship between EE (know-what, know-why, know-who and know-how) and the ECO of the students were examined. Statistical tests were used to achieve the objective and to confirm five direct hypothesized relationships. Empirical findings supported a positive significant relationship between know-why, know-who, and know-how and ECO but not know-what and the latter.

In the second objective, the relationship between EE (know-what, know-why, know-who and know-why) with entrepreneurial opportunity recognition was tested through five proposed hypotheses. The empirical findings showed all the hypotheses under this relationship to be supported.

Moving on to the third objective, the study examined the EOR-ECO relationship by testing the hypothesized significant and relationship between the two. Empirically the result showed support for the hypothesis, indicating the significant role that EOR plays in developing ECO of students.

In the fourth objective, the study examined the EOR mediating role on the EE-ECO relationship through five hypothesized relationships. The statistical findings showed support for the mediating role of EOR in association between EE, KWHY, KWHO, KHOW and students' ECO, indicating that EOR is an intermediary construct in the relationship between EE and the students' ECO.

On the basis of the obtained findings, this study recommends the study model to explain EE, EOR and ECO. In traditional EE, opportunity exploitation has been largely focused on disregarding opportunity recognition. Contrastingly, the present study model suggests that EE program should be based on the EE dimensions of know-what, know-why, know-who and know-how to inculcate entrepreneurial theory and practice. It indicates the need for a systematic method based teaching approach of EE that motivates EOR among students and in turn, heightens their ECO.

On the whole, this study succeeded in empirically examining the relationship between EE (know-what, know-why, know-who, and know-how), EOR and ECO. A total of 16 hypothesized relationships were empirically tested, from which 14 were significantly supported and the remaining 2 were rejected. The study provided theoretical and practical implications based on the study findings. The study is expected to add valuable implications in the entrepreneurship, entrepreneurship education and entrepreneurial career fields. The study limitations highlighted indicate avenues for future research to take for extensive examination of the topic.

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Appendix A

Research Questionnaire

Dear respondent,

Academic Research Questionnaire

I am a PhD candidate undergoing full time study at Universiti Utara Malaysia. As part of the requirements of the program, I am currently undertaking a survey research tittle: **Relationship between entrepreneurship education, entrepreneurial opportunity recognition and entrepreneurial career option among Palestinian undergraduate students.** In this regard, you have been duly selected as a member of the sample for the study.

You are kindly requested to spare your time and complete this questionnaire form. All the responses will be treated confidential and use for academic purpose only.

Thank you for your time and cooperation.

Yours sincerely,

Nidal M. Z. Abuzuhri
PhD (Entrepreneurship) Candidate
School of Business Management
Universiti Utara Malaysia
06010 Sintok, Kedah Malaysia
E-mail: nedal_zedan@hotmail.com

PART 1: Entrepreneurial Career Option

The questionnaire adopts five-points Likert-scale. It is structured in statement form to allow for more choice to the respondents. Please, use the key below to select your options for each statement and tick (✓) as appropriate in the answer options 1 to 5.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

NO	Statement	1	2	3	4	5
1	I prefer an entrepreneurial career to increase my personal income.					
2	I prefer an entrepreneurial career to increase my opportunity.					
3	I prefer an entrepreneurial career to acquire personal wealth.					
4	I prefer an entrepreneurial career to be my own boss.					
5	I prefer an entrepreneurial career to become self-employment.					
6	I prefer an entrepreneurial career to control my own destiny.					
7	I prefer an entrepreneurial career to acquire personal security.					
8	I prefer an entrepreneurial career to enjoy my personal excitement.					
9	I prefer an entrepreneurial career to meet business challenges.					
10	I prefer an entrepreneurial career to prove I can do it.					
11	I prefer an entrepreneurial career to recognize business opportunities.					
12	I prefer an entrepreneurial career to exploit business opportunities.					
13	I prefer an entrepreneurial career to develop new ideas.					
14	I prefer an entrepreneurial career to develop new innovations and initiatives.					

PART 2: Entrepreneurial Opportunity Recognition

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

NO	Statement	1	2	3	4	5
1	I enjoy thinking about new ways of doing things.					
2	I frequently identify opportunities to start-up new businesses (even though I may not pursue them).					
3	I frequently identify ideas that can be converted into new products or services (even though I may not pursue them).					
4	I generally have ideas that will materialize into profitable enterprises.					

5- How many ideas for new businesses did you think of in the past month?

None ☐ One☐ Tow☐ Three☐ Four☐ More☐

PART 3: Entrepreneurship Education

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

SECTION A: Know-what

NO	Statement	1	2	3	4	5
1	The entrepreneurship course increases my understanding of generating innovative ideas.					
2	The entrepreneurship course increases my understanding of entrepreneurial ventures.					
3	The entrepreneurship course increases my understanding of financial preparation for entrepreneurial ventures.					
4	The entrepreneurship course increases my understanding of planning business.					
5	The entrepreneurship course increases my					

	understanding of market research for entrepreneurial ventures.					

SECTION B: Know-why

NO	Statement	1	2	3	4	5
1	The entrepreneurship course increases my understanding of the attitudes of entrepreneurs (i.e., how they view entrepreneurship and why they act).					
2	The entrepreneurship course increases my understanding of the importance of entrepreneurship.					
3	The entrepreneurship course increases my understanding of the personal characteristics of entrepreneurs (e.g., risk taking, innovation, etc.).					
4	The entrepreneurship course gives me a sense that entrepreneurship is achievable.					
5	The entrepreneurship course increases my understanding of the motives of engaging in entrepreneurial activities (e.g., money, self-achievement, social status, etc.).					

SECTION C: Know-who

NO	Statement	1	2	3	4	5
1	The entrepreneurship course enhances my ability to develop networks (e.g., obtaining useful from professor, guest speakers or classmate).					
2	Views of the professor inspire my entrepreneurial mind.					
3	Views of external speakers inspire my entrepreneurial mind.					
4	Successful stories of local entrepreneurs inspire my entrepreneurial mind.					
5	The entrepreneurial experience of the entrepreneurs enhances my understanding of the entrepreneurial process.					

SECTION D: Know-how

NO	Statement	1	2	3	4	5
1	The entrepreneurship course enhances my skills to develop a business plan.					
2	The course enhances my skills to handle an entrepreneurship project.					
3	The entrepreneurship course enhances my skills to deal with risks and uncertainties.					

4	The entrepreneurship course enhances my skills to allocate resources (e.g., money, personal, time etc.).					
5	The entrepreneurship course enhances my ability to identify a business opportunity.					

Part 4: Demographic Characteristics

Using the following statements select the most appropriate option that specifies your demographic information.

1. Age
   - i) 18 - 29 [ ]
   - ii) 30 – 39 [ ]
   - iii) 40 – 49 [ ]
   - iv) 50 – 59 [ ]
   - v) 60 and above [ ]
2. Gender
   - i) Male [ ]
   - ii) Female [ ]
3. Area of study
   - i) Business [ ]
   - ii) Agriculture [ ]
   - iii) Engineering [ ]
   - iv) Technology [ ]
4. Parent's self-employed
   - i) Yes [ ]
   - ii) No [ ]

5. Closed relative self-employed

   i) Yes [ ]

   ii) No [ ]

6. Occupational experience

   i) Self-employed [ ]

   ii) Civil servant [ ]

   iii) Working for others [ ]

   iv) Apprenticeship [ ]

   v) Unemployed [ ]

THANK YOU VERY MUCH FOR YOUR COOPERATION

Appendix B

Translated Research Questionnaire

Othman Yeop Abdullah
Graduate School of Business
Universiti Utara Malaysia
06010 UUM Sintok
Kedah Darul Aman, Malaysia
Tel: (+604) 928 3930 | Fax: (+604) 928 5220
Email: oyagsb@uum.edu.my

Dear Respondents

ACADEMIC RESEARCH QUESTIONNAIRE

I am a doctoral candidate at the above-named university, currently working on my PhD thesis title "**Relationship between entrepreneurship education, entrepreneurial opportunity recognition and entrepreneurial career option among Palestinian undergraduate students**".

Thank you in advance for taking your valuable time to fill in this questionnaire. Please be assured that your responses will only be used for academic purpose. Hence, your identity will never be known throughout any part of the research process.

Thank you very much in anticipation of your responses.

عزيزي المبحوث

استبيان بحث اكاديمي

أنا طالب دراسات عليا في جامعة اوتارا الماليزية (درجة الدكتوراه) اعمل على اجراء دراسة بعنوان " دور الاعتراف بالفرص الريادية كمتغير وسيط للعلاقة بين التعليم الريادي و ريادة الاعمال كخيار مهني".

اقدر لكم تعاونكم وردكم على هذا الاستبيان والاجابة على التساؤلات. علما بان المعلومات والاجابات سوف تعامل بسرية تامة وللغرض العلمي فقط من قبل الباحث وكلية ادارة الاعمال في جامعة اوتار الماليزية.

شكرا جزيلا لتعاونكم.

PART 1: Entrepreneurial Career Option

The questionnaire adopts five-points Likert-scale. It is structured in statement form to allow for more choice to the respondents. Please, use the key below to select your options for each statement and tick (✓) as appropriate in the answer options 1 to 5.

الجزء الاول: المهن الريادية كخيار وظيفي:

اعتمد الاستبيان على مقياس ليكرت الخماسي في الاجابات حتى يعطي للمبحوث الخيارات في الاجابة. الرجاء استخدام الرقم المناسب لكل فقرة من الفقرات التالية من خلال وضع الاشارة (✓).

Strongly Disagree غير موافق بشدة	Disagree غير موافق	Neutral محايد	Agree موافق	Strongly Agree موافق بشدة
1	2	3	4	5

NO	Statement الفقرات	1	2	3	4	5
1	I prefer an entrepreneurial career to increase my personal income. أفضل المهن الريادية لزيادة الدخل الشهري					
2	I prefer an entrepreneurial career to increase my opportunity. أفضل المهن الريادية لزيادة فرصتي في العمل					
3	I prefer an entrepreneurial career to acquire personal wealth. أفضل المهن الريادية للحصول على الثروة الشخصية					
4	I prefer an entrepreneurial career to be my own boss. أفضل المهن الريادية لكي اكون انا المدير					
5	I prefer an entrepreneurial career to become self-employment. أفضل المهن الريادية لكي اعمل لحسابي الشخصي					
6	I prefer an entrepreneurial career to control my own destiny. أفضل المهن الريادية للتحكم بمصيري المهني					
7	I prefer an entrepreneurial career to acquire personal security. أفضل المهن الريادية للحصول على امان وظيفي					
8	I prefer an entrepreneurial career to enjoy my personal excitement. أفضل المهن الريادية لتلبية رغبتي الشخصية					
9	I prefer an entrepreneurial career to meet business challenges.					

	أفضل المهن الريادية لمواجهة التحديات في الاعمال					
10	I prefer an entrepreneurial career to prove I can do it. أفضل المهن الريادية لاثبات ذاتي واني قادر علي هذا					
11	I prefer an entrepreneurial career to recognize business opportunities. أفضل المهن الريادية لادراك الفرص الريادية					
12	I prefer an entrepreneurial career to exploit business opportunities. أفضل المهن الريادية لاستغلال الفرص الريادية					
13	I prefer an entrepreneurial career to develop new ideas. أفضل المهن الريادية لتطوير الافكار الجديدة					
14	I prefer an entrepreneurial career to develop new innovations and initiatives. أفضل المهن الريادية لتطوير ابتكارات ومبادرات جديدة					

PART 2: Entrepreneurial Opportunity Recognition

الجزء الثاني: ادراك الفرص الريادية

Strongly Disagree غير موافق بشدة	Disagree غير موافق	Neutral محايد	Agree موافق	Strongly Agree موافق بشدة
1	2	3	4	5

NO	Statement الفقرات	1	2	3	4	5
1	I enjoy thinking about new ways of doing things. انا افضل التفكير بطرق جديدة للقيام بالاعمال					
2	I frequently identify opportunities to start-up new businesses (even though I may not pursue them). أعمل على تحديد الفرص الريادية بشكل متكرر للقيام بالمشاريع الجديدة (على الرغم انني قد لا اتابع هذه الفرصة)					
3	I frequently identify ideas that can be converted into new products or services (even though I may not pursue them).					

	أعمل على تحديد الافكار بشكل متكرر التي يمكن تحويلها الى سلع او خدمات (على الرغم انني قد لا اتابع هذه الفرصة)					
4	I generally have ideas that will materialize into profitable enterprises. بشكل عام انا امتلك الافكار التي ممكن ان تتحول الى مشاريع مربحة					

5- How many ideas for new businesses did you think of in the past month?

5- كم عدد الافكار الريادية التي فكرت بها خلال الشهر الماضي؟

None ☐ One☐ Tow☐ Three☐ Four☐ More☐

☐لا يوجد ☐مرة واحدة ☐مرتين ☐ثلاث مرات ☐اربع مرات ☐اكثر

PART 3: Entrepreneurship Education

الجزء الثالث: التعليم الريادي

Strongly Disagree غير موافق بشدة	Disagree غير موافق	Neutral محايد	Agree موافق	Strongly Agree موافق بشدة
1	2	3	4	5

SECTION A: Know-what

القسم أ : المعرفة الريادية

NO	Statement الفقرات	1	2	3	4	5
1	The entrepreneurship course increases my understanding of generating innovative ideas. مساق ريادة الاعمال يزيد فهمي ومعرفتي لخلق افكار جديدة					
2	The entrepreneurship course increases my understanding of entrepreneurial ventures. مساق الريادة يزيد من معرفتي لماهية مشاريع العمل الريادية					
3	The entrepreneurship course increases my understanding of financial preparation for					

	entrepreneurial ventures. مساق ريادرة الاعمال يزيد معرفتي للاعداد المالي للمشاريع					
4	The entrepreneurship course increases my understanding of planning business. مساق ريادة الاعمال يزيد فهمي لتخطيط الاعمال					
5	The entrepreneurship course increases my understanding of market research for entrepreneurial ventures. مساق ريادة الاعمال يزيد معرفتي لدراسة احتياجات السوق للمشاريع الريادية					

SECTION B: Know-why

القسم ب : دوافع العمل الريادي

NO	Statement الفقرات	1	2	3	4	5
1	The entrepreneurship course increases my understanding of the attitudes of entrepreneurs (i.e., how they view entrepreneurship and why they act). مساق ريادة الاعمال يزيد من معرفتي لسلوك و مواقف رواد الاعمال تجاه ريادة الاعمال مما يدفعني للعمل الريادي					
2	The entrepreneurship course increases my understanding of the importance of entrepreneurship. مساق ريادة الاعمال يزيد فهمي باهمية ريادة الاعمال					
3	The entrepreneurship course increases my understanding of the personal characteristics of entrepreneurs (e.g., risk taking, innovation, etc.). مساق ريادة الاعمال يزيد معرفتي لخصائص الرواد (تحمل المخاطرة، الابتكار .. الخ)					
4	The entrepreneurship course gives me a sense that entrepreneurship is achievable. مساق ريادة الاعمال يعطيني شعورا بان الريادة يمكن تحقيقها					
5	The entrepreneurship course increases my understanding of the motives of engaging in entrepreneurial activities (e.g., money, self-achievement, social status, etc.). مساق ريادة الاعمال يزيد فهمي للحاجة الى الانخراط للعمل الريادي (الاموال، تحقيق الذات، المكانة الاجتماعية... الخ)					

SECTION C: Know-who

القسم ج : التفاعلات والعلاقات الريادية

NO	Statement الفقرات	1	2	3	4	5
1	The entrepreneurship course enhances my ability to develop networks (e.g., obtaining useful from professor, guest speakers or classmate). مساق ريادة الاعمال يعزز قدرتي لتطوير شبكة العلاقات (للاستفادة من المحاضرين، قصص النجاح، الزملاء)					
2	Views of the professor inspire my entrepreneurial mind. اراء المحاضرين تحفزني وتنمي العقلية الريادية					
3	Views of external speakers inspire my entrepreneurial mind. نظرة الناس الى الريادي تشجعني وتحسن عقليتي الريادية					
4	Successful stories of local entrepreneurs inspire my entrepreneurial mind. قصص النجاح للرواد في المجتمع تحفز عقليتي الريادية					
5	The entrepreneurial experience of the entrepreneurs enhances my understanding of the entrepreneurial process. الخبرة والتجربة الريادية للرواد تعزز فهمي لعملية الريادة					

SECTION D: Know-how

الجزء د : المهارات الريادية والقدرات

NO	Statement الفقرات	1	2	3	4	5
1	The entrepreneurship course enhances my skills to develop a business plan. مساق ريادة الاعمال يحسن مهارتي في تطوير خطط الاعمال					
2	The course enhances my skills to handle an entrepreneurship project. مساق ريادة الاعمال يعزز مهاراتي في التعامل مع المشاريع					
3	The entrepreneurship course enhances my skills to deal with risks and uncertainties. مساق ريادة الاعمال يعزز قدراتي للتعامل مع المخاطر وظروف عدم التاكد					
4	The entrepreneurship course enhances my					

	skills to allocate resources (e.g., money, personal, time etc.). مساق ريادة الاعمال يعزز قدرتي في حشد وتخصيص الموارد (المال، الموارد البشرية، الوقت ... الخ)					
5	The entrepreneurship course enhances my ability to identify a business opportunity. مساق ريادة الاعمال يحسن مهارتي في تحديد الفرص الريادية					

PART 4: Demographic Information:

Using the following statements select the most appropriate option that specifies your demographic information.

الجزء الربع: المعلومات الديمغرافية

يرجى اختيار المعلومات المناسبة الخاصة بك

1- Age / العمر

i) 18 – 29 ( )

ii) 30 – 39 ( )

iii) 40 – 49 ( )

iv) 50 – 59 ( )

v) 60 and above ( )

2- Gender / الجنس

i) Male ذكر ( )

ii) Female أنثى ( )

3- Name of university / اسم الجامعة

i) Islamic University – Gaza الجامعة الاسلامية- غزة ( )

ii) Al-Aqsa University جامعة الاقصى ( )

iii) University of Palestine جامعة فلسطين ( )

iv) Arab American University الجامعة العربية الامريكية ( )

v) Palestine Technical University جامعة فلسطين التقنية ( )

vi) An-Najah National University جامعة النجاح الوطنية ( )

4- Area of study / التخصص

i) Business management إدارة الاعمال ( )

ii) Accounting المحاسبة ( )

iii) Finance التمويل ( )

iv) Economic الاقتصاد ( )

5- Parent's self-employment / هل أحد الوالدين يمتلك مشروع ذاتي

i) Yes نعم ( )

ii) No لا ( )

6- Close- relative self-employed / هل أحد الاقرباء يمتلك مشروع ذاتي

i) Yes نعم ( )

ii) No لا ( )

7- Occupational experience / الخبرة العملية

i)	Self-employed	صاحب مشروع	( )
ii)	Civil servant	موظف مدني	( )
iii)	Working for others	اعمل لحساب شخص آخر	( )
iv)	Apprenticeship	فترة تدريب	( )
v)	Unemployed	لا اعمل	( )

THANK YOU VERY MUCH FOR YOUR COOPERATION

شكر لكم ولحسن تعاونكم

Appendix C

Letter of Recommendation for Data Collection

OTHMAN YEOP ABDULLAH GRADUATE SCHOOL OF BUSINESS
Universiti Utara Malaysia
06010 UUM SINTOK
KEDAH DARUL AMAN
MALAYSIA

UUM
Universiti Utara Malaysia

Tel.: 604-928 7101/7113/7130
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Laman Web (Web): www.oyagsb.uum.edu.my

"MUAFAKAT KEDAH"

UUM/OYAGSB/R-4/4/1
26 July 2017

TO WHOM IT MAY CONCERN

Dear Sir/Madam,

LETTER OF RECOMMENDATION FOR DATA COLLECTION AND RESEARCH WORK

This is to certify that **Nidal M. Z. Abuzuhuri (Matric No: 900294)** is a student of Othman Yeop Abdullah Graduate School of Business, Universiti Utara Malaysia persuing his Doctor of Philosophy (PhD). He is conducting a research entitled ***"The Mediating Effect of Entrepreneurial Opportunity Recognition on Relationship between Entrepreneurial Career Option"*** under the supervision of Assoc. Prof. Dr. Norashidah Binti Hashim.

In this regard, we hope that you could kindly provide assistance and cooperation for him to successfully complete the research. All the information gathered will be strictly used for academic purposes only.

Your cooperation and assistance is very much appreciated.

Thank you.

"BERKHIDMAT UNTUK NEGARA"
"ILMU, BUDI, BAKTI"

Yours faithfully

FADHLINA BINTI MD PUDZI
Assistant Registrar
for Dean
Othman Yeop Abdullah Graduate School of Business

c.c - Supervisor
- Student's File (900294)

Appendix D
Acknowledgement Letter for Data Collection
Al Aqsa University

OTHMAN YEOP ABDULLAH GRADUATE SCHOOL OF BUSINESS
Universiti Utara Malaysia
06010 UUM SINTOK
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"MUAFAKAT KEDAH"

UUM/OYAGSB/R-4/4/1
26 July 201?

TO WHOM IT MAY CONCERN

Dear Sir/Madam,

LETTER OF RECOMMENDATION FOR DATA COLLECTION AND RESEARCH WORK

This is to certify that Nidal M. Z. Abuzuhuri (Matric No: 900294) is a student of Othman Yeop Abdullah Graduate School of Business, Universiti Utara Malaysia persuing his Doctor of Philosophy (PhD). He is conducting a research entitled *"The Mediating Effect of Entrepreneurial Opportunity Recognition on Relationship between Entrepreneurial Career Option"* under the supervision of Assoc. Prof. Dr. Norashidah Binti Hashim.

In this regard, we hope that you could kindly provide assistance and cooperation for him to successfully complete the research. All the information gathered will be strictly used for academic purposes only.

Your cooperation and assistance is very much appreciated.

Thank you.

"BERKHIDMAT UNTUK NEGARA"
"ILMU, BUDI, BAKTI"

Yours faithfully

FADHLINA BINTI MD PUDZI
Assistant Registrar
for Dean
Othman Yeop Abdullah Graduate School of Business

c.c - Supervisor
- Student's File (900294)

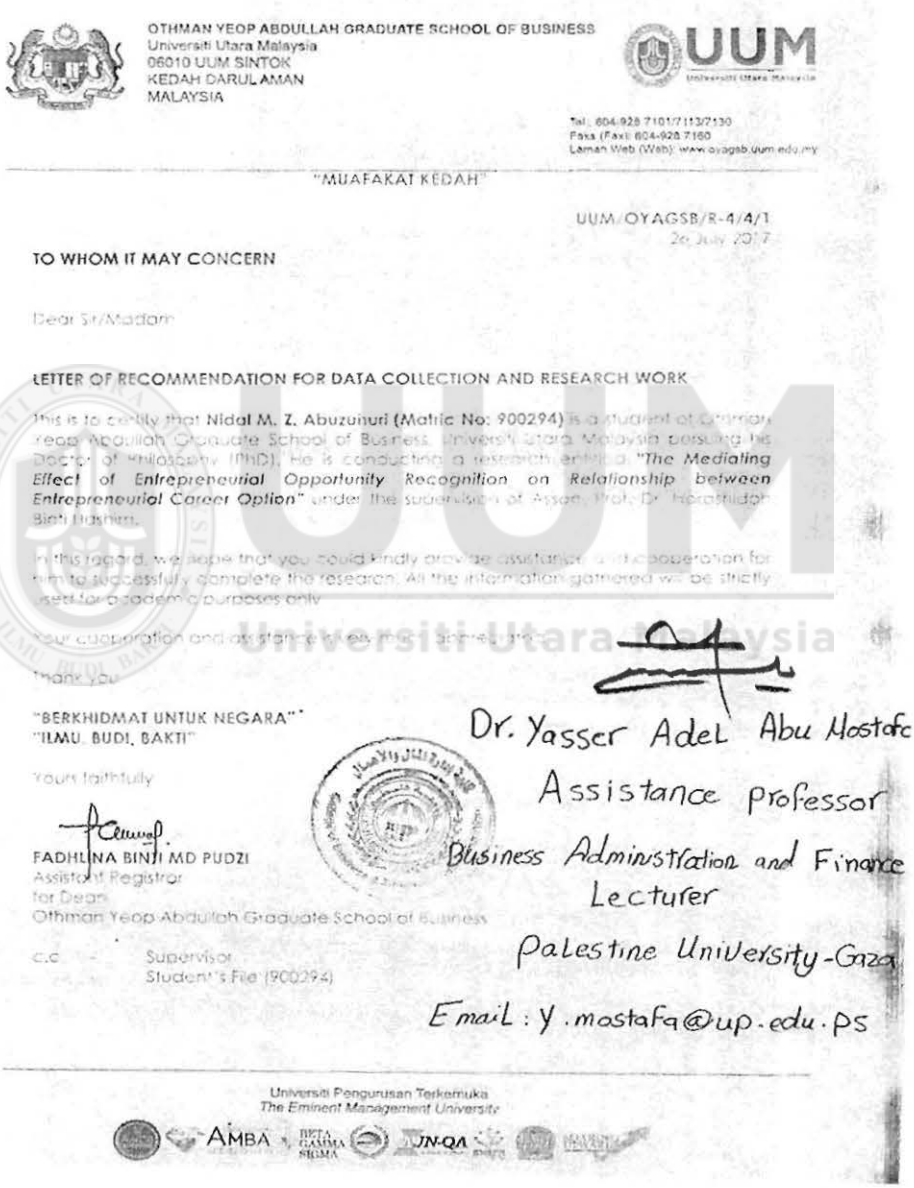
Al_Aqsa University - Gaza

Dr. Nidal f. AbedAllah

Business Administration Department

Nidal Abdallah

Appendix E
Acknowledgement Letter for Data Collection
University of Palestine



OTHMAN YEOP ABDULLAH GRADUATE SCHOOL OF BUSINESS
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"MUAFAKAT KEDAH"

UUM/OYAGSB/R-4/4/1
26 July 2017

TO WHOM IT MAY CONCERN

Dear Sir/Madam

LETTER OF RECOMMENDATION FOR DATA COLLECTION AND RESEARCH WORK

This is to certify that Nidal M. Z. Abuzuinuri (Matric No: 900294) is a student of Othman Yeop Abdullah Graduate School of Business, Universiti Utara Malaysia pursuing his Doctor of Philosophy (PhD). He is conducting a research entitled *"The Mediating Effect of Entrepreneurial Opportunity Recognition on Relationship between Entrepreneurial Career Option"* under the supervision of Assoc. Prof. Dr. Norashidah Binti Hashim.

In this regard, we hope that you could kindly provide assistance and cooperation for him to successfully complete the research. All the information gathered will be strictly used for academic purposes only.

Your cooperation and assistance is very much appreciated.

Thank You

"BERKHIDMAT UNTUK NEGARA"
"ILMU, BUDI, BAKTI"

Yours faithfully

FADHLINA BINTI MD PUDZI
Assistant Registrar
for Dean
Othman Yeop Abdullah Graduate School of Business

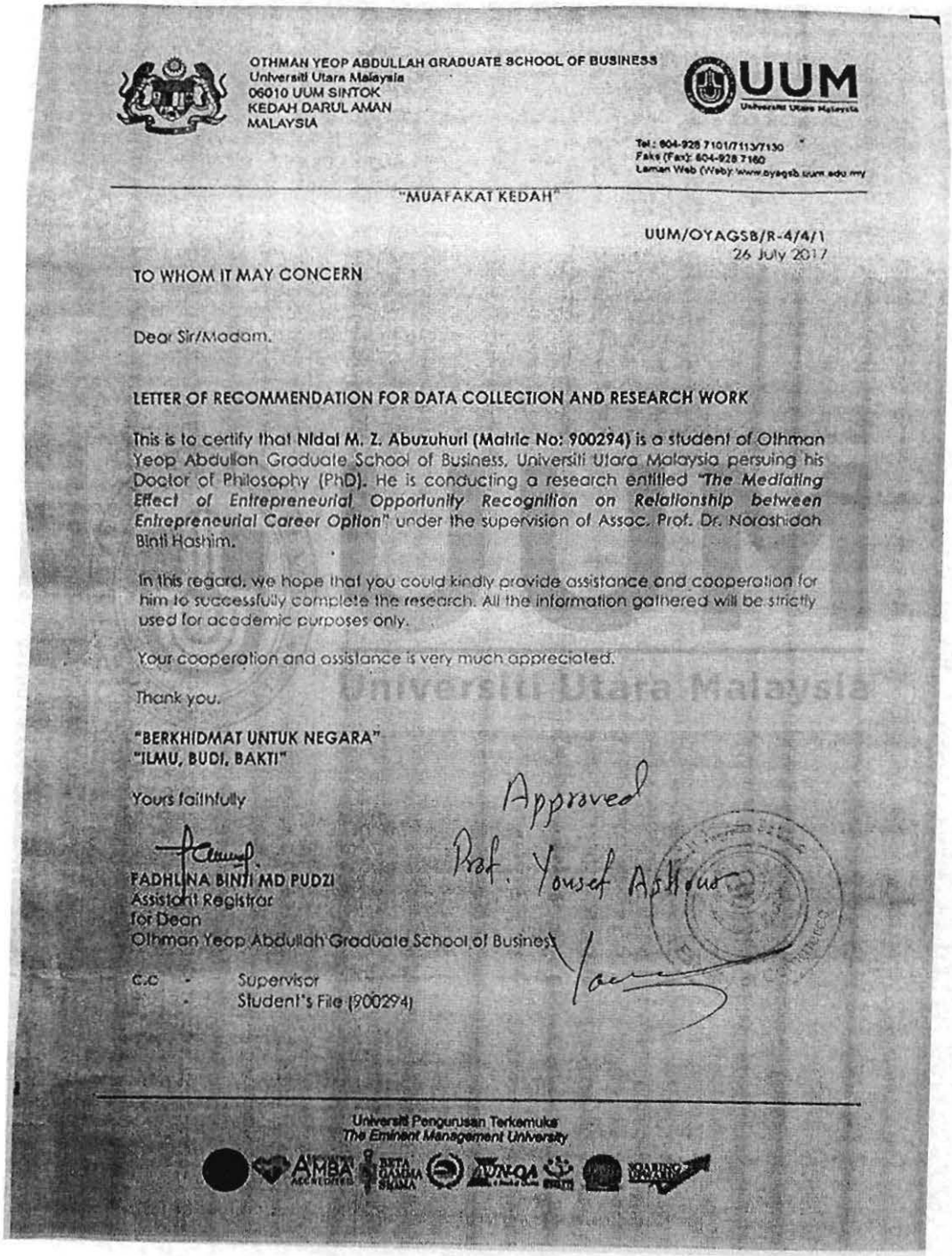
c.c - Supervisor
Student's File (900294)

Dr. Yasser Adel Abu Mostafa
Assistance professor
Business Administration and Finance
Lecturer
Palestine University-Gaza
Email : y.mostafa@up.edu.ps

Universiti Pengurusan Terkemuka
The Eminent Management University

AMBA BETA GAMMA SIGMA UN-QA

Appendix F
Acknowledgement Letter for Data Collection
Islamic University-Gaza



OTHMAN YEOP ABDULLAH GRADUATE SCHOOL OF BUSINESS
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KEDAH DARUL AMAN
MALAYSIA

UUM
Universiti Utara Malaysia

Tel : 604-928 7101/7113/7130
Faks (Fax): 604-928 7160
Laman Web (Web): www.oyagsb.uum.edu.my

"MUAFAKAT KEDAH"

UUM/OYAGSB/R-4/4/1
26 July 2017

TO WHOM IT MAY CONCERN

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"ILMU, BUDI, BAKTI"

Yours faithfully

Approved
Prof. Yousef Ashour

FADHLINA BINTI MD PUDZI
Assistant Registrar
for Dean
Othman Yeop Abdullah Graduate School of Business

c.c - Supervisor
- Student's File (900294)

Universiti Pengurusan Terkemuka
The Eminent Management University

Appendix G
Acknowledgement Letter for Data Collection
AN-Najah National University

OTHMAN YEOP ABDULLAH GRADUATE SCHOOL OF BUSINESS
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UUM/OYAGSB/R-4/4/1
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"ILMU, BUDI, BAKTI"

Yours faithfully,

FADHLINA BINTI MD PUDZI
Assistant Registrar
for Dean
Othman Yeop Abdullah Graduate School of Business

c.c Supervisor
Student's File (900294)

Approved
Dr. Sameh Atout
Dean / Faculty of Economics & Social Sciences

FACULTY OF ECONOMICS & SOCIAL SCIENCES / DEANSHIP

Appendix H
Acknowledgement Letter for Data Collection
Palestine Technical University

جامعة فلسطين التقنية
خضوري
Palestine Technical University

بسم الله الرحمن الرحيم
PTU
Kadoorie خضوري

دولة فلسطين
وزارة التربية والتعليم العالي
State of Palestine
Ministry of Education & Higher Education

President Assistant Office

TO WHOM IT MAY CONCERN

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Thank you

Yours faithfully

Dr.Derar Eleyyan
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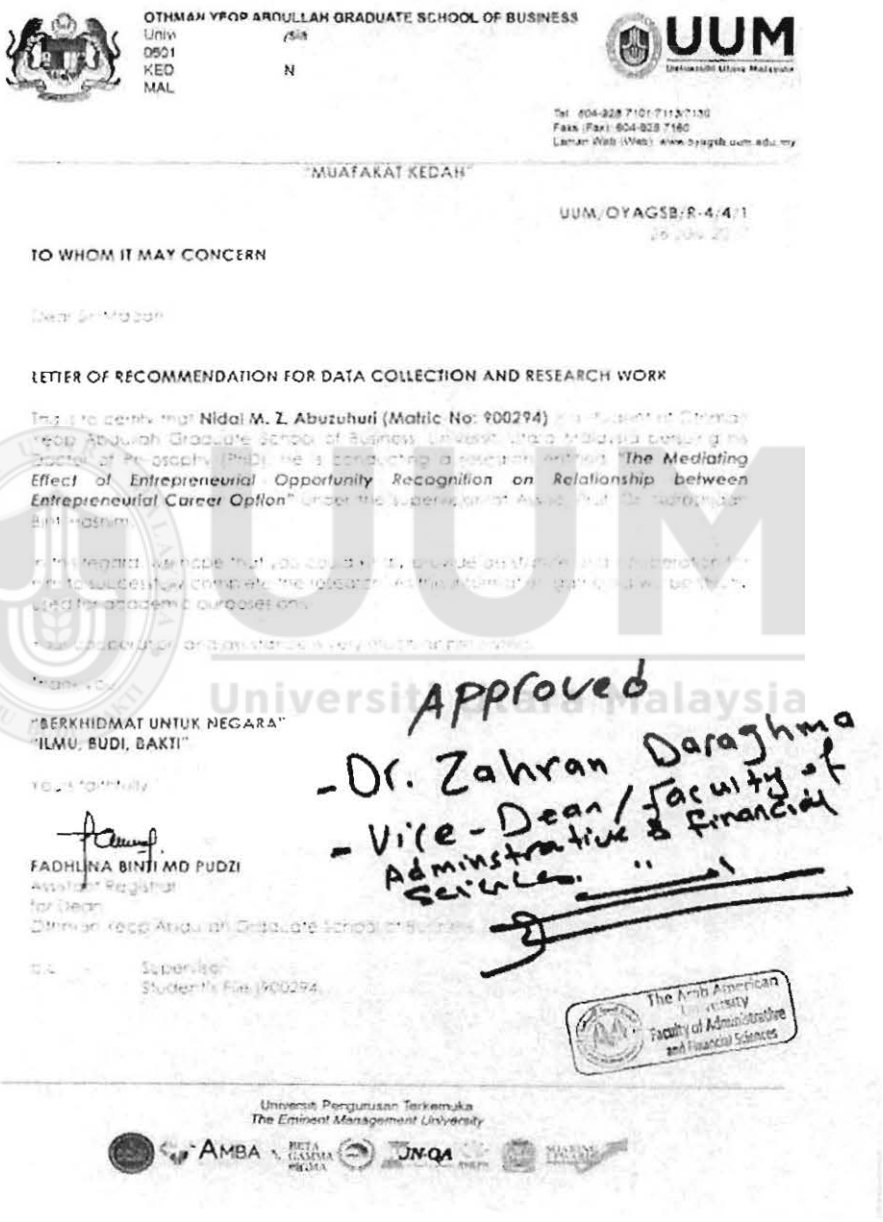
Appendix I
Acknowledgement Letter for Data Collection
Arab American University



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"ILMU, BUDI, BAKTI"

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FADHLINA BINTI MD PUDZI
Assistant Registrar
for Dean
Othman Yeop Abdullah Graduate School of Business

c.c. Supervisor
Student's File (900294)

Approved
- Dr. Zahran Daraghma
- Vice-Dean / Faculty of Administrative & Financial Sciences

The Arab American University
Faculty of Administrative and Financial Sciences

Universiti Utara Malaysia

Universiti Pengurusan Terkemuka
The Eminent Management University

AMBA BETA GAMMA SIGMA JIN-QA

Appendix J

Missing Values

	N	
	Valid	Missing
ECO 01	291	2
ECO 02	291	0
ECO 03	291	0
ECO 04	291	4
ECO 05	291	0
ECO 06	291	1
ECO 07	291	2
ECO 08	291	0
ECO 09	291	0
ECO 10	291	0
ECO 11	291	1
ECO 12	291	0
ECO 13	291	0
ECO 14	291	0
KWHAT01	291	2
KWHAT02	291	2
KWHAT03	291	2
KWHAT04	291	0

KWHAT05	291	0
KWHY01	291	0
KWHY02	291	0
KWHY03	291	2
KWHY04	291	2
KWHY05	291	2
KWHO01	291	0
KWHO02	291	2
KWHO03	291	2
KWHO04	291	2
KWHO05	291	0
KHOW01	291	0
KHOW02	291	0
KHOW03	291	0
KHOW04	291	0
KHOW05	291	0
EOR01	291	2
EOR02	291	0
EOR03	291	2
EOR04	291	0
EOR05	291	2

Appendix K

Replacement of Missing Values

Result Variables

	Result Variable	N of Replaced Missing Values	Case Number of Non-Missing Values		N of Valid Cases	Creating Function
			First	Last		
1	ECO_1	2	1	291	291	SMEAN(ECO1)
2	ECO_4	4	1	291	291	SMEAN(ECO4)
3	ECO_6	1	1	291	291	SMEAN(ECO6)
4	ECO_7	2	1	291	291	SMEAN(ECO7)
5	ECO_11	1	1	291	291	SMEAN(ECO11)
6	EOR_1	2	1	291	291	SMEAN(EOR1)
7	EOR_3	2	1	291	291	SMEAN(EOR3)
8	EOR_5	3	1	291	291	SMEAN(EOR5)
9	KWHY_3	2	1	291	291	SMEAN(KWHY3)
10	KWHY_4	2	1	291	291	SMEAN(KWHY4)
11	KWHY_5	2	1	291	291	SMEAN(KWHY5)
12	KWHAT_1	2	1	291	291	SMEAN(KWHAT1)
13	KWHAT_2	2	1	291	291	SMEAN(KWHAT2)
14	KWHAT_3	2	1	291	291	SMEAN(KWHAT3)
15	KWHO_2	2	1	291	291	SMEAN(KWHO2)
16	KWHO_3	2	1	291	291	SMEAN(KWHO3)
17	KWHO_4	2	1	291	291	SMEAN(KWHO4)

Appendix L

Descriptive Statistics of Variables

Descriptive Statistics									
	N	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
ECO1	289	3	5	4.40	.569	-.276-	.143	-.790-	.286
ECO2	291	1	5	2.88	1.295	-.013-	.143	-1.148-	.285
ECO3	291	1	5	2.95	1.137	-.048-	.143	-.774-	.285
ECO4	287	1	5	3.03	1.172	-.153-	.144	-.798-	.287
ECO5	291	1	5	3.05	1.124	-.116-	.143	-.703-	.285
ECO6	290	1	5	3.10	1.112	-.191-	.143	-.681-	.285
ECO7	289	1	5	3.08	1.149	-.219-	.143	-.832-	.286
ECO8	291	3	5	4.36	.624	-.433-	.143	-.658-	.285
ECO9	291	1	5	3.04	1.155	-.196-	.143	-.748-	.285
ECO10	291	1	5	3.01	1.148	-.234-	.143	-.839-	.285
ECO11	290	1	5	3.00	1.141	-.014-	.143	-.719-	.285
ECO12	291	1	5	3.07	1.172	-.147-	.143	-.819-	.285
ECO13	291	1	5	2.98	1.165	-.131-	.143	-.894-	.285
ECO14	291	1	5	2.92	1.191	-.007-	.143	-.803-	.285
EOR1	289	1	5	2.58	1.407	.187	.143	-1.345-	.286
EOR2	291	1	5	3.35	1.070	-.328-	.143	-.604-	.285
EOR3	289	1	5	2.61	1.231	.368	.143	-.883-	.286
EOR4	291	1	5	2.31	1.150	.654	.143	-.429-	.285
EOR5	288	1	5	2.15	1.108	.845	.144	-.043-	.286
KHOW1	291	1	5	3.66	1.049	-.546-	.143	-.313-	.285
KHOW2	291	1	5	3.60	1.029	-.436-	.143	-.327-	.285
KHOW3	291	1	5	3.56	1.007	-.289-	.143	-.525-	.285
KHOW4	291	1	5	3.51	1.074	-.173-	.143	-.996-	.285
KHOW5	291	1	5	3.35	1.184	-.081-	.143	-1.061-	.285
KWHY1	291	1	5	3.57	1.147	-.518-	.143	-.632-	.285
KWHY2	291	1	5	3.62	1.124	-.435-	.143	-.598-	.285
KWHY3	289	1	5	3.64	1.091	-.589-	.143	-.330-	.286
KWHY4	289	1	5	3.15	1.050	-.270-	.143	-.514-	.286
KWHY5	289	1	5	3.23	.985	-.282-	.143	-.232-	.286
KWHAT1	289	1	5	3.48	1.259	-.630-	.143	-.570-	.286

KWHAT2	289	1	5	3.54	1.169	-.528-	.143	-.637-	.286
KWHAT3	289	1	5	3.51	1.146	-.455-	.143	-.613-	.286
KWHAT4	291	1	5	3.59	1.232	-.473-	.143	-.933-	.285
KWHAT5	291	1	5	3.70	1.201	-.724-	.143	-.437-	.285
KWHO1	291	1	5	3.13	1.131	-.072-	.143	-.955-	.285
KWHO2	289	1	5	3.22	1.246	-.127-	.143	-1.023-	.286
KWHO3	289	1	5	3.26	1.235	-.127-	.143	-.963-	.286
KWHO4	289	1	5	3.18	1.119	-.240-	.143	-.624-	.286
KWHO5	291	1	5	3.52	1.081	-.430-	.143	-.366-	.285
SMEAN(ECO1)	291	3	5	4.40	.567	-.276-	.143	-.774-	.285
SMEAN(ECO4)	291	1	5	3.03	1.164	-.154-	.143	-.767-	.285
SMEAN(ECO6)	291	1	5	3.10	1.110	-.191-	.143	-.673-	.285
SMEAN(ECO7)	291	1	5	3.08	1.145	-.220-	.143	-.817-	.285
SMEAN(ECO11)	291	1	5	3.00	1.139	-.014-	.143	-.711-	.285
SMEAN(EOR1)	291	1	5	2.58	1.402	.188	.143	-1.333-	.285
SMEAN(EOR3)	291	1	5	2.61	1.227	.369	.143	-.868-	.285
SMEAN(EOR5)	291	1	5	2.15	1.103	.850	.143	-.012-	.285
SMEAN(KWHY3)	291	1	5	3.64	1.087	-.591-	.143	-.311-	.285
SMEAN(KWHY4)	291	1	5	3.15	1.046	-.271-	.143	-.497-	.285
SMEAN(KWHY5)	291	1	5	3.23	.982	-.283-	.143	-.213-	.285
SMEAN(KWHAT1)	291	1	5	3.48	1.254	-.632-	.143	-.553-	.285
SMEAN(KWHAT2)	291	1	5	3.54	1.165	-.529-	.143	-.621-	.285
SMEAN(KWHAT3)	291	1	5	3.51	1.142	-.457-	.143	-.597-	.285
SMEAN(KWHO2)	291	1	5	3.22	1.242	-.128-	.143	-1.009-	.285
SMEAN(KWHO3)	291	1	5	3.26	1.231	-.127-	.143	-.949-	.285
SMEAN(KWHO4)	291	1	5	3.18	1.115	-.241-	.143	-.607-	.285
ECO	**291**	**2**	**5**	**3.20**	**.701**	**-.026-**	**.143**	**-.755-**	**.285**
EOR	**291**	**1**	**5**	**2.60**	**.940**	**.681**	**.143**	**-.627-**	**.285**
KHOW	**291**	**1**	**5**	**3.53**	**.848**	**-.364-**	**.143**	**-.688-**	**.285**
KWHY	**291**	**1**	**5**	**3.44**	**.783**	**-.350-**	**.143**	**-.490-**	**.285**
KWHAT	**291**	**1**	**5**	**3.56**	**.917**	**-.782-**	**.143**	**-.195-**	**.285**
KWHO	**291**	**1**	**5**	**3.26**	**.895**	**-.214-**	**.143**	**-.757-**	**.285**
Mahalanobis Distance	291	0	18	4.98	2.786	1.199	.143	2.550	.285
Cook's Distance	291	0	0	.00	.005	3.266	.143	15.683	.285
Valid N (list wise)	272								

Appendix M

Result of Pearson Correlation

Correlations

		EOR	KHOW	KWHY	KWHAT	KWHO
EOR	Pearson Correlation	1	.625**	.682**	.449**	.607**
	Sig. (2-tailed)		.000	.000	.000	.000
	N	291	291	291	291	291
KHOW	Pearson Correlation	.625**	1	.748**	.488**	.791**
	Sig. (2-tailed)	.000		.000	.000	.000
	N	291	291	291	291	291
KWHY	Pearson Correlation	.682**	.748**	1	.553**	.713**
	Sig. (2-tailed)	.000	.000		.000	.000
	N	291	291	291	291	291
KWHAT	Pearson Correlation	.449**	.488**	.553**	1	.549**
	Sig. (2-tailed)	.000	.000	.000		.000
	N	291	291	291	291	291
KWHO	Pearson Correlation	.607**	.791**	.713**	.549**	1
	Sig. (2-tailed)	.000	.000	.000	.000	
	N	291	291	291	291	291

Appendix N

Collinearity statistics for Tolerance and VIF

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	1.102	.133		8.282	.000					
	EOR	.353	.040	.474	8.836	.000	.726	.464	.333	.495	2.020
	KHOW	.147	.057	.178	2.583	.010	.637	.151	.097	.299	3.340
	KWHY	.097	.059	.108	1.648	.100	.645	.097	.062	.329	3.036
	KWHAT	.042	.036	.055	1.175	.241	.453	.069	.044	.643	1.555
	KWHO	.055	.052	.070	1.042	.299	.606	.062	.039	.318	3.141

a. Dependent Variable: ECO

Appendix O

PLS-SEM Measurement Findings

Appendix O1: Cronbach's Alpha, Composite Reliability and Average Variance Extracted

Construct	AVE	CR	CA
ECO	0.598	0.947	0.939
EE	0.609	0.900	0.859
EOR	0.604	0.857	0.807
KHOW	0.572	0.798	0.649
KWHAT	0.713	0.925	0.899
KWHO	0.807	0.926	0.875
KWHY	0.822	0.902	0.785

Appendix O2: Latent Variable correlations

Construct	ECO	EE	EOR	KHOW	KWHAT	KWHO	KWHY
ECO	**0.773**						
EE	-0.043	**0.780**					
EOR	0.499	0.211	**0.777**				
KHOW	0.275	0.181	0.292	**0.757**			
KWHAT	-0.071	0.088	0.164	0.177	**0.845**		
KWHO	0.176	0.244	0.225	0.009	0.220	**0.899**	
KWHY	0.119	0.423	0.309	0.081	0.290	0.244	**0.906**

Appendix O3: Cross Loading

Constructs	ECO	EOR	KHOW	KWHAT	KWHO	KWHY
ECO1	**0.725**	0.399	0.146	-0.116	0.013	-0.061
ECO10	**0.831**	0.445	0.270	-0.021	0.139	0.021
ECO11	**0.747**	0.331	0.157	-0.018	0.177	0.192
ECO12	**0.784**	0.420	0.259	-0.021	0.055	0.151
ECO2	**0.798**	0.428	0.063	-0.027	0.179	0.116
ECO3	**0.778**	0.402	0.169	-0.086	0.137	0.241
ECO4	**0.758**	0.310	0.117	-0.055	0.260	0.106
ECO5	**0.756**	0.345	0.229	-0.009	0.185	0.158
ECO6	**0.735**	0.358	0.321	-0.009	0.013	0.178
ECO7	**0.812**	0.427	0.242	-0.073	0.158	0.092
ECO8	**0.781**	0.373	0.288	-0.145	0.206	0.008
ECO9	**0.762**	0.347	0.288	-0.053	0.142	-0.051
EOR2	0.577	**0.885**	0.310	0.072	0.148	0.253
EOR3	0.097	**0.605**	0.014	0.370	0.340	0.396
EOR4	0.274	**0.828**	0.262	0.184	0.189	0.200
EOR5	0.317	**0.762**	0.161	0.132	0.198	0.258
KHOW1	0.301	0.355	**0.667**	0.102	0.047	0.062
KHOW4	0.214	0.286	**0.685**	0.048	0.089	0.202
KHOW5	0.167	0.137	**0.896**	0.194	-0.045	0.017
KWHAT1	-0.119	0.116	0.163	**0.866**	0.087	0.168
KWHAT2	-0.052	0.173	0.190	**0.834**	0.202	0.349
KWHAT3	-0.025	0.144	0.156	**0.884**	0.166	0.215
KWHAT4	-0.009	0.125	0.098	**0.852**	0.220	0.286
KWHAT5	-0.097	0.132	0.141	**0.784**	0.257	0.205
KWHO1	0.088	0.138	0.063	0.150	**0.757**	0.351
KWHO2	0.188	0.229	-0.015	0.218	**0.962**	0.164
KWHO5	0.188	0.229	-0.015	0.218	**0.962**	0.164
KWHY1	0.145	0.351	0.081	0.271	0.224	**0.925**
KWHY2	0.064	0.196	0.065	0.254	0.218	**0.887**

Appendix O4: Removed Items

N	Dimension	Item/s
1	**ECO**	- I prefer an entrepreneurial career to develop new ideas. - I prefer an entrepreneurial career to develop new innovations and initiatives.
2	**Know-who**	- Views of external speakers inspire my entrepreneurial mind. - Successful stories of local entrepreneurs inspire my entrepreneurial mind.
3	**Know-why**	- The entrepreneurship courses increase my understanding of the personal characteristics of entrepreneurs (e.g., risk taking, innovation, etc.). - The entrepreneurship course gives me a sense that entrepreneurship is achievable. - The entrepreneurship course increases my understanding of the motives of engaging in entrepreneurial activities (e.g., money, self-achievement, social status, etc.).
4	**Know-how**	- The course enhances my skills to handle an entrepreneurship project. - The entrepreneurship course enhances my skills to deal with risks and uncertainties.
5	**EOR**	- I enjoy thinking about new ways of doing things.

Appendix P

Path Coefficients

Path Coefficients (Mean, STDEV, T-Values)

Construct	Beta	St. error	T-Value	P-Value	Decision
EE -> ECO	0.0914	0.0589	1.5507	0.0610	Supported
EOR -> ECO	0.1008	0.0563	1.7909	0.0372	Supported
KHOW -> ECO	0.1581	0.0441	3.5844	0.0002	Supported
KWHAT -> ECO	-0.0473	0.0514	0.9220	0.1787	Not Supported
KWHO -> ECO	0.0604	0.0404	1.4942	0.0681	Supported
KWHY -> ECO	0.5499	0.0473	11.6198	0.0000	Supported